# AMERICAN GAS ASSOCIATION MONTHLY

FEBRUARY · 1938

**Getting Together for Gas Sales**
A. FORWARD

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**Natural Gas Output Expands in 1937**
H. J. STRUTH

•

**Analysis of Employee Pension Plans**
R. S. CHILD

•

**Commercial Refrigeration Market**
J. F. QUINN

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AMERICAN GAS
ASSOCIATION
MONTHLY

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*James M. Beall, Editor*

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# Getting Together for Sales

By ALEXANDER FORWARD

Managing Director, American Gas Association

NEARLY twelve years have passed since I broached the subject of gas company and plumber dealer cooperation in an address before the Annual Conference of Presidents and Secretaries of Master Plumbers Associations. It has been nearly seven years since the cooperative agreement was executed between the National Association of Master Plumbers and the American Gas Association. Certainly it is time to take stock, to look around and appraise what has happened in the meantime and take counsel together to see what we can do now in the direction expressed in the title of my talk, "Getting Together for Sales."

During the years since May 2, 1931 there has come to the American Gas Association no suggestion for any change in the agreement then entered into with enthusiasm and good faith. Recent reconsideration indicates that the principles then laid down and agreed to are just as good in 1938.

•

It has not been found possible, nor indeed is it desirable, to outline a set of practices applicable generally to the relations between the gas companies and the plumber-dealers. Local conditions vary; local practices concerning public relations and customer relations and employee relations are substantially different.

It would make an interesting story to assemble in one place the various methods by which the operating companies and the master plumbers in different cities have approached, dealt with and carried through solutions of their common problems. In preparation for this talk I have reviewed them and wish all of you could do so. Time forbids any relation of them here.

As a sort of constitution, the principles suggested in 1931 for the guidance for the gas companies as a basis for promoting cooperative trade relations, have been demonstrated to be sound and constructive. They have worked. Practices have been wisely left to the localities. In most cases they have worked too.

I make no apology for taking the time to read these principles here. It is good for all of us to be reminded at times. Here they are:

*Agreement of May 3, 1931*

1. All gas appliances offered for sale by all cooperating agencies in a cooperative program shall be of any standard make or shall bear the seal of approval of the American Gas Association Testing Laboratory.

2. No appliance or merchandise not directly related to the use of gas shall be sold by gas utilities.

3. In all merchandising activities, the resale mark-up of all gas appliances that have received reasonable customer acceptance shall be consistent with present-day merchandising practices. There shall be no premiums given with nor trade-in allowances made in connection with the sale of any such appliances unless all cooperating agencies are in a position to participate.

4. The presenting to the public of those gas appliances not having received reasonable customer acceptance shall be considered as promotional activities and not as merchandising activities.

5. Coordinated advertising of approved appliances should be developed by gas utility companies and local dealers, and the gas company should give all reasonable assistance possible to the dealer in advertising, displays and sales assistance.

6. The deferred payment feature of our merchandising activities shall be on an economically sound basis.

•

And while I am digging up history and telling you I think we all did a darn good job in those days, let me remark that what I said in 1927 in an article in *Domestic Engineering* is also just as good now as it was then:

"The wide-awake gas man numbers among his closest business friends the local plumbing and heating contractors, for they have too much in common to permit anything but the best of relations. Consider for a moment the question of water heating. The manufacturers have provided equipment for every need, whether it be a small circulating heater, an automatic storage or an automatic instantaneous system. The local gas company has intimate and detailed knowledge of its own distribution system and how the water heating load will affect the system as a whole. Under a good cooperative working agreement between the local gas company and the local plumbing and heating contractor the physical conditions prevailing at the customer's location will be previously discussed and the most desirable appliance or equipment installed. The net

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Address before Illinois Master Plumbers' Association, Springfield, Ill., January 18, 1938.

result will be that the new customer will obtain uniform and satisfactory water heating without affecting his neighbors, nor they him, even in small-main outlying districts.

"The gas company has constant and continuous contact with its customers and must stand prepared to render service long after the plumber or contractor has completed the job. In the interest of good and continued service and satisfaction, only the proper installation should be made for a given situation. The means for securing and maintaining such contact between the gas company and plumbing and heating contractor are readily available and tend to promote harmonious relations. . . . .

"The plumbing and heating contractor is engaged in the business of merchandising his knowledge and service, together with appliances and equipment for many uses beside gas burning. The gas company is primarily in the business of merchandising gas. It is uneconomic and entirely unnecessary that these two complementary agents for rendering the most essential, as well as the most convenient and comfort-giving service to mankind, should not be in the closest and most harmonious accord.

"We believe this increased business will result from furnishing the gas consumer with the safest appliances, the best in their respective field, the most economical in operation and correctly installed to render the maximum possible service."

### *Interests Are Identical*

Many of the interests of the gas company may be one thing and many of the interests of the master-plumbers may be another thing. But there is one desire we have in common and nobody here will deny it. We want more business and with more business we would like to make more money. That is the incentive of the entire picture from the one-plumber shop to the corporation with a million meters.

It is essential for the gas company to keep in mind the plumber is in business for profit and for the plumber to remember that the gas company is in no sense a monopoly but is in competition with every other form of fuel.

In many cities and towns these interests have sat together around the table or have participated in meetings where cooperation has been discussed. The *Plumbing and Heating Trade Journal* for December has some striking stories of the results of dealer cooperation. You may recall the figures of a single concern, The Brooklyn Union Gas Company, whose sales through dealers increased from $77,000 in the last six months of 1929 to $1,029,049.85 in the year 1937, while the sales made through leads secured by dealers who profited by them, have risen from $12,000 to $193,323.32 in 1937, or a total appliance business of $1,222,373.17, an increase of 22.8% over the preceding year. In other words, in the territory of one company the cooperating dealers share in a yearly business of $1,000,000. The tendency there is for the plumbers to do actual selling themselves instead of furnishing leads.

Hugh Cuthrell, Chairman of our Commercial Section, tells in his article in the current issue of *American Gas Journal* of one plumber in the Brooklyn territory, who in the first ten months of 1937 collected 228,962 accounts, sold 222 appliances worth about $25,000, made 362 appliance connections and executed 20,763 service orders. He made $10,000 in commissions and connection charges.

### *Cooperative Agreement Stands*

I have said that no request has come from anywhere within the gas industry for any change in the cooperative agreements. It is equally true that we have had no request in these seven years for any such action from the National Association or from any state or local Association of Master Plumbers. The American Gas Association stands ready to confer with any responsible body of master plumbers at any time.

As a matter of fact, there will be a conference of subcommittees of our respective organizations in New York on January 27, next week, to discuss matters of joint interest.

Since the agreements of 1931 the American Gas Association Laboratories have so grown in prestige, due to support from dealers as well as gas companies, that 96% of all domestic gas appliances sold in the United States and Canada now bear the Laboratory Approval Seal.

You may recall that in a survey after two years of development work under the cooperative plan it was found that operating gas companies serving seven million customers were conducting their sales activities in accordance with the joint recommendations. It is interesting to note that 95% of the manufactured gas companies and 96% of the natural gas companies cooperated with plumbers and a lesser percentage with heating contractors, furniture stores, hardware stores and department stores.

The field of the master plumber today is distinctively gas water heating. Now see what is happening. You are all familiar with the prize contests for water heater sales. It is quite likely that you also know that this promotional campaign is on a bigger scale in 1938 than ever before and that the water heater manufacturers are spending larger amounts of money for advertising, promotion and prizes.

We recently asked the gas companies for lists of cooperating master plumbers to whom the literature of the contest can be mailed. We have received 12,000 such names and the addresses in just a brief period. Many more will be enrolled in the immediate future. Remember that these are master plumbers in close and friendly contact with gas companies and engaged in joint efforts for more sales and more profits.

Many of you also know that one of the largest grocery chains distributes booklets to its customers and includes material on modern, efficient types of water heaters, to the benefit of plumber dealers in the neighborhood of each store.

### *Making Sales Easier*

For many years the gas companies of the country have been urging the public to buy gas water heaters; have publicized the benefits of automatic hot water. You are in position to cash in on all this and the gas companies want you to do it. You are aware that every gas company makes a study of better installation practices to the greater satisfaction of the customer and to the constant stimulation of public acceptance; making sales easier for you.

Water heater manufacturers and committees of the American Gas Association have been and are working together to improve the heaters made and sold so that they will operate more satisfactorily, will use less gas and make sales easier.

The sale and installation of these

modern appliances increase your own prestige, add dignity to your business, make a profitable trade for you in repairs.

There is money in the gas water heater business for the plumber. There is money in the same business for the gas company, which always wants to increase its gas sales. In three years there was an increase of 147% in the revenue of plumber-dealers from commissions and installation charges.

Don't think I am so infantile as to claim all the credit for the gas industry. Many of the master plumbers have better ideas about salesmanship than we, and can show us a thing or two about making sales.

As expressed by our committee, co-operation is not a one-way ticket. These results could not have been achieved or even approximated except where the plumber-dealer was big enough and wise enough and forceful enough to take advantage of his opportunities and cooperative enough to work with the gas companies to their mutual profit. As to those localities where the gas companies and the independent dealers are still engaged in making faces at each other, I can just say we are sorry. We do not know whose is the fault, and have not the resources to investigate the facts in any locality. Probably there is a long history behind any such situation.

Not only has the American Gas Association time after time made earnest efforts to promote the cooperative spirit but we have gone so far as to suggest to member gas companies that they take the initiative in bringing about the conferences necessary to joint cooperative action.

I am not convinced that in any city or town in the United States or Canada is it necessary for gas companies and independent dealers to be competitors, except to the extent that healthy, open, honorable rivalry is good for all concerned.

Certainly legislation cannot be the cure. In the very few instances where utilities have been prohibited from engaging in the sale of appliances, it is history that the dealers, when deprived of the promotional efforts of the gas company, have suffered losses in business and usually join in a movement to restore to the utility its merchandising privileges and opportunities.

*Home Planning Program*

Our Association's latest activity is the organization at our Headquarters of the Home Appliance Planning Bureau. The purpose is to promote the construction of many new homes throughout the country, to encourage the sale and installation therein of the best modern types of appliances and to foster improvements to homes already occupied with modernization of "four-way gas equipment," ranges, water heaters, house heating and refrigeration. In connection with this activity there will be nation-wide architects' contests and builders' contests. We have planned the most extensive publicity and promotional work and there can be no doubt that this undertaking will put gas to the forefront in the American conception of the modern home and what it means.

It is totally unnecessary for me to say that this contains a direct appeal to every master plumber to keep fully acquainted with these activities on the part of local architects and builders and be on the job.

Clifford E. Paige, President of The Brooklyn Union Gas Company, delivered a notable address while President-elect of the American Gas Association at our annual convention in Atlantic City in 1930 and closed with these inspiring words: "The utility will meet any proposition, any way, any time, a little better than half-way." That, too, goes for 1938 just as well as it did for 1930.

---

# Co-operation vs. Competition*

NEARLY 10 years ago, when conditions among utilities and our trade were not as bright or promising as they appear today, a "Plumbing and Heating Trade Journal" editorial campaign aroused the gas industry and leaders in our field to the necessity for constructive co-operation rather than destructive competition. Never before that awakening had there been such good feeling among master plumbers and gas companies as we find governing the sale and installation of gas appliances in many parts of the country today.

The steady and constant progress of the utility-dealer co-operative selling movement in our field has been no small achievement. The fact that in this issue we have been able to report on the plans and programs of gas companies in 26 states is an indication of a healthy development which no amount of complaining and baiting on either side can becloud. To expect that in a single decade every gas company in the United States would have in operation a completely satisfactory co-operative program would be, in our opinion, expecting miracles; and few miracles are happening these days!

At least it is not unreasonable to expect that as the various arrangements approach the desired condition of perfection, the co-operating master plumbers in many cases will have proved by their performance that it is no longer necessary for gas companies to have anything directly to do with the merchandising of appliances and equipment beyond providing whatever non-selling support may be desirable.

The big point to bear in mind is that the cooperative movement is undeniably in a healthy state of progress. It is also well to remember that utility-dealer programs have contributed largely to the development of the master plumbers' ability and success in appliance merchandising. Where these programs have worked successfully, the master plumbers as well as the utilities have profited; the former through increased sales and installations, and the latter through increased gas load, their major commodity. The master plumbers have had the advantage of the utilities' advertising and promotional support, sales helps, financing arrangements and other aids. The utilities, in turn, have found it extremely helpful to have so many master plumbers acting as sales ambassadors for gas.

Right now in certain parts of the country master plumbers who have never known the joys and profits of practical co-operation are negotiating with their local gas companies to establish workable programs for co-operation in sales and installations. There are many gas companies, too, that have tried unsuccessfully for years to effect co-operative programs which would satisfy the local master plumbers. However, all the pressure that can be brought to bear upon the utilities will be of little avail unless the master plumbers themselves display the proper co-operative spirit and the salesmanship that will entitle them to recognition as the retail outlets for gas-fired equipment.

* Part of editorial in "Plumbing and Heating Trade Journal" for December, 1937.

# Expanding Markets Boost Natural Gas Output in 1937

**All of the data in the following article are taken from the official reports of the United States Bureau of Mines with the exception of the 1937 figures which are independent estimates of the author. Natural gas figures compiled by the Bureau of Mines differ from those released by the Association's statistical department in that the A. G. A. figures do not include natural gas used in field operations and in the manufacture of carbon black, or gas used by distributing companies in the conduct of their operations. Also, A. G. A. figures on the natural gas industry do not include companies serving mixed manufactured and natural gas.—*Editor.***

By H. J. STRUTH

**Petroleum Economist, Dallas, Texas**

TWO trillion five hundred billion cubic feet (2,500,000,000,000) is the indicated volume of natural gas produced and marketed in the United States last year! Another all-time peak, surpassing the record of 1936 by fifteen per cent.

Expanding markets, which carried all phases of utilization to new peak levels last year, gave impetus not only to withdrawals from existing gas reservoirs but also spurred drilling activity to the extent of further augmenting the long-range outlook for a dependable supply of this great natural resource.

### *Record-Breaking Year*

Statistically, 1937 was a remarkable year for the natural gas industry, as may readily be appreciated from the accompanying panoramic chart. Marketed production increased substantially in all producing areas except California, which showed practically no change from the preceding year. Louisiana showed the greatest percentage increase, 62 per cent over 1936, while Oklahoma and Texas showed gains of 18 per cent and seven per cent, respectively, and the balance of the nation registered a net gain over 1936 of seven per cent.

The production history of the past twelve years, shown in Table 1, presents a glowing record of achievement for the natural gas industry and emphasizes particularly the phenomenal growth in gas production of Texas to its present position of supplying 31 per cent of the nation's output.

Advance estimates indicate further substantial gains in sales of natural gas to domestic, commercial and industrial consumers and new peaks in 1937 which range up to 70 per cent above the depression lows of 1932 and 1933, and are now as much as 40 per cent above the levels of 1929. An increase in domestic consumption of 16 per cent over 1936 reflects not only a further healthy gain in the number of consumers, but also the growing tendency to the use of gas for home heating and refrigeration. The use of gas for heating office buildings, hotels and apartment houses and, likewise, the adoption of gas refrigeration in this field is reflected by an increase of 20 per cent in commercial utilization.

The sharp increase in gas consumption by industry, aggregating a gain over 1936 of about 245 billion cubic feet, conforms to the upward trend of numerous branches of industrial activity last year. In fact, had there been no downward revision in production schedules of various basic industries toward the latter part of last year, it

TABLE 1

MARKETED NATURAL GAS PRODUCTION

(Millions of Cubic Feet)

| *Year* | *U. S. Total* | *Texas* | *California* | *Oklahoma* | *Louisiana* | *Other States* |
|---|---|---|---|---|---|---|
| 1937* | 2,500,000 | 775,000 | 325,000 | 360,000 | 475,000 | 565,000 |
| 1936 | 2,175,000 | 725,000 | 325,000 | 305,000 | 293,000 | 527,000 |
| 1935 | 1,916,595 | 642,366 | 284,109 | 274,313 | 249,450 | 466,357 |
| 1934 | 1,770,721 | 602,976 | 268,122 | 254,457 | 225,713 | 419,453 |
| 1933 | 1,555,474 | 475,691 | 259,799 | 245,759 | 197,826 | 376,399 |
| 1932 | 1,555,990 | 456,832 | 263,484 | 255,487 | 201,561 | 378,626 |
| 1931 | 1,686,436 | 464,580 | 305,930 | 263,685 | 224,155 | 428,086 |
| 1930 | 1,943,421 | 517,880 | 334,789 | 348,116 | 278,341 | 464,295 |
| 1929 | 1,917,693 | 464,928 | 342,214 | 357,893 | 261,138 | 491,520 |
| 1928 | 1,568,139 | 301,990 | 246,215 | 320,861 | 227,821 | 471,252 |
| 1927 | 1,445,428 | 254,063 | 212,364 | 326,864 | 186,961 | 465,176 |
| 1926 | 1,313,019 | 175,392 | 204,915 | 286,421 | 157,423 | 488,868 |

* Preliminary estimates—subject to revision.

TABLE 2

UTILIZATION OF NATURAL GAS

(Millions of Cubic Feet)

| *Year* | *Total Consumption* | *Domestic* | *Commercial* | *Industrial* |
|---|---|---|---|---|
| 1937* | 2,490,000 | 400,000 | 135,000 | 1,955,000 |
| 1936 | 2,167,668 | 345,000 | 113,000 | 1,710,000 |
| 1935 | 1,909,901 | 313,498 | 100,187 | 1,496,216 |
| 1934 | 1,764,988 | 288,236 | 91,261 | 1,385,491 |
| 1933 | 1,553,399 | 283,197 | 85,577 | 1,184,625 |
| 1932 | 1,554,335 | 298,520 | 87,367 | 1,168,448 |
| 1931 | 1,684,249 | 294,406 | 86,491 | 1,303,352 |
| 1930 | 1,942,000 | 296,000 | 81,000 | 1,565,000 |
| 1929 | 1,917,000 | 280,000 | 80,000 | 1,557,000 |
| 1928 | 1,568,000 | 246,000 | 75,000 | 1,247,000 |
| 1927 | 1,445,000 | 226,000 | 70,000 | 1,149,000 |
| 1926 | 1,313,000 | 224,000 | 65,000 | 1,024,000 |

* Preliminary estimates—subject to revision.

is likely that the volume of gas consumed in this branch of utilization would have been even greater than the figure indicated. With further curtailment of industry expected within at least the first half of this year, it is quite likely that industrial sales of natural gas will be retarded to an appreciable degree. Yet, gas men may view their immediate future with confidence, since the industrial markets for gas are as yet far from being fully exploited and there is ample economic evidence to confirm the belief that current downward industrial production trends will resume an upward movement within the next four to five months.

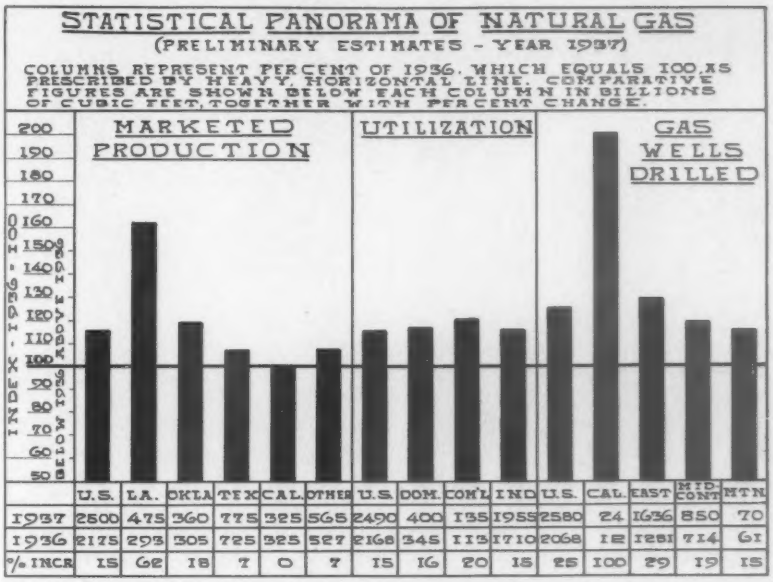
*Industry Parallel*

Comparative figures of domestic, commercial and industrial utilization of natural gas present a veritable cross-section of the economic state of the nation. The ups and downs of America's people and her industries are barometrically recorded by the consumption statistics shown in Table 2.

Twelve and one-half per cent of all productive wells completed in the United States last year were gas wells. The completion of 2,580 new gas wells in 1937, represented an increase over 1935 of 1,169 wells, or an increase of 84 per cent. As a result of this large increase in new wells the number of producing wells in the United States at the close of 1937 was approximately 55,000, compared with 53,790 in 1935. In addition, many thousands of producing oil wells contributed about 40 per cent of all the natural gas produced in the United States.

While California showed the greatest percentage increase in new gas well completions, doubling from 12 to 24 wells completed, the largest numerical increase was recorded by the Eastern States, the gain of 29 per cent being represented by 355 more wells than were drilled in 1936. Many of the new gas wells drilled last year served to define and build up new gas reserves, which further emphasized the ability of this great industry to expand its distribution facilities with confidence in the availability of supply over a long future period of years. The discovery of new gas fields in Texas, Louisiana, Oklahoma, Michigan and California continued last year to attest to the stability, dependability and permanence of natural gas as one of America's greatest modern utilities.

Drilling statistics show a sharp increase from the low level established in 1933, when the number of new wells completed amounted to but 932. Last year's total of 2,580, therefore, constitutes an increase of 277 per cent over 1933. Completion records for 1929 and 1930, however, exceeded last year's total by nearly 300 wells. Sectional drilling statistics for the past three years are shown in Table 3.


STATISTICAL PANORAMA OF NATURAL GAS
(PRELIMINARY ESTIMATES - YEAR 1937)
COLUMNS REPRESENT PERCENT OF 1936, WHICH EQUALS 100, AS PRESCRIBED BY HEAVY, HORIZONTAL LINE. COMPARATIVE FIGURES ARE SHOWN BELOW EACH COLUMN IN BILLIONS OF CUBIC FEET, TOGETHER WITH PERCENT CHANGE.
MARKETED PRODUCTION
UTILIZATION
GAS WELLS DRILLED
INDEX - 1936 = 100
ABOVE 1936
BELOW 1936
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
U.S. LA. OKLA TEX CAL. OTHER U.S. DOM. COM'L IND U.S. CAL. EAST MID-CONT MTN.
1937 2500 475 360 775 325 565 2490 400 135 1955 2580 24 1636 850 70
1936 2175 293 305 725 325 527 2168 345 113 1710 2068 12 1281 714 61
% INCR 15 62 18 7 0 7 15 16 20 15 25 100 29 19 15

Financial results of the industry for 1937 showed substantial improvement over 1936, but increased gross revenues of many gas producing and distributing companies were minimized by materially higher operating costs and ever more burdensome local, state and federal taxes. Reductions in domestic gas rates were numerous during the past year, but the record-breaking industrial demand caused the total value of all natural gas marketed to increase from $479,000,000 in 1936 to about $550,000,000 in 1937. Sales of gas ranges, refrigerators, heating units and conversions to gas-heated homes, hotels and apartment houses are reported to have increased as much as twenty-five per cent over the preceding year.

TABLE 3
GAS WELLS DRILLED

| *Year* | *U. S. Total* | *Eastern States* | *Mid-Continent* | *Rocky Mtn.* | *Calif.* | *Texas** |
|---|---|---|---|---|---|---|
| 1937 | 2,580 | 1,636 | 850 | 70 | 24 | 470 |
| 1936 | 2,068 | 1,281 | 714 | 61 | 12 | 388 |
| 1935 | 1,401 | 806 | 531 | 30 | 34 | 276 |

* Texas wells are included in total for Mid-Continent area.

## Ship Named in Honor of R. W. Gallagher

A NEW tanker, the second of seven oil-carrying ships being built for the Standard Oil Company of New Jersey, was christened the R. W. Gallagher at a launching ceremony January 22 at the Sparrow Point yards of the Bethlehem Shipbuilding Corp., Ltd. in Baltimore, Md. Mr. Gallagher, a past president of the American Gas Association, is vice-president of the Standard Oil Company of New Jersey. Mrs. R. W. Gallagher sponsored the vessel.

The R. W. Gallagher is a ship of 13,000 tons deadweight and has a capacity of 106,400 barrels of oil.

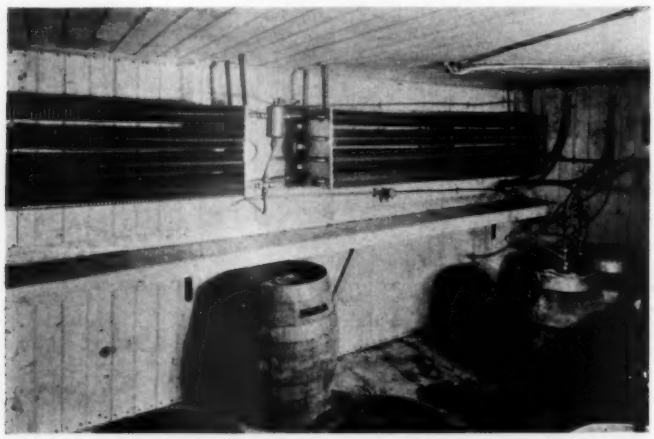
# Commercial Refrigeration Opens Vast New Market for Gas

By JOSEPH F. QUINN
Commercial Sales Manager,
The Brooklyn Union Gas Company

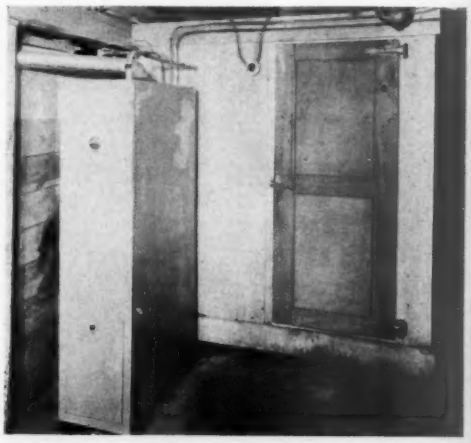
FOR years the wide and fertile field of commercial refrigeration has been beckoning to the gas utilities who were powerless to answer the call. For years the gas utilities have felt the need of a commercial gas unit with which they could go after this business and add a substantial and profitable load to their lines. The great success with the domestic gas refrigeration unit only whetted their appetites for a similar unit with which they could enter the commercial field. Such a unit has been developed by Servel, Inc., makers of the Electrolux domestic gas refrigerator.

This new commercial gas refrigeration unit has several inherent advantages that particularly recommend it. Among these advantages is the fact that it has no moving parts to wear out or get out of adjustment or cause noise. It is economical for it uses gas, the economical fuel. Because of its simplicity, its dependability is a feature. Its maintenance has thus far proved to be a relatively simple matter. Being of the constant absorptive type it maintains an unvarying degree of coldness at all times.

The field of usefulness for this commercial gas refrigeration unit is large and varied. Some enthusiasts go so far as to say that it is a great potential commercial market for the gas industry today, a market that is ready made and waiting because of the superiority of the gas unit over present methods



*Walk-in cooler for pre-cooling beer in storage and on tap. Note evaporators on wall connected with gas refrigerating unit and beer kegs with lines running to the bar taps*



*Designed for ice, this cooler was easily fitted for gas refrigeration by the installation of evaporators inside and the gas unit outside*

*Beer from the cooler above is pumped directly to the taps of this bar. Savings from this method of cooling go a long way toward paying for the gas unit*

*The commercial refrigerating unit above serves this restaurant. It maintains the cooler at an unvarying temperature—in this case 40 degrees F.*

of cooling. Many are the complaints against the present forms of mechanical refrigeration most common of which are excessive maintenance, fluctuating temperatures and oil in the lines.

Within the commercial field there is a wide variety of applications for the sizes that are now available, such as small hotels, restaurants, delicatessens, beer parlors, butcher shops, soda fountains, drug stores, ice cream parlors, florists, dairies, luncheonettes, meat markets and others. Existing coolers or cabinets, whether fitted up with mechanical refrigeration or simply iced, are easily converted to gas refrigeration. All that is necessary is to place a gas unit close by, put an evaporator coil in the cooler and connect the two. From then on the unit is automatic and continuous in operation.

*Grocery and delicatessen in which a gas unit cools two show cases, doing work equivalent to 16,000 lbs. of ice monthly at an average cost of $12.50 per month*

*A modern dining car in which a single gas unit serves two cold storage compartments and two cold Bain Maries*

*Ice box in a restaurant cooled by the gas unit shown on the right. The gas unit is completely sealed and has no moving parts to get out of order*

*A customer expresses his satisfaction with gas commercial refrigeration*

*Fruit and vegetable store with a walk-in cooler served by the new gas refrigerating unit. The gas bill for this installation last July was $10 as against $15 for ice previous*

*Two mechanical refrigerating units in this modern restaurant were replaced by a single gas unit which serves two cooling cabinets with entire satisfaction*

It is usually necessary for the gas man to make a survey of the job first just as he now does for space heating with the purpose, however, of conserving cold instead of heat. It is not always good practice to use existing evaporator coils. These should sometimes be replaced during conversion with new evaporators put together with all new tubing. This tends to insure refrigeration unimpaired by impediments in the cold equipment.

The Brooklyn Union Gas Company, Brooklyn, New York, was the first to enter this field in a commercial way. This company, realizing the value of this market, spent considerable time and effort preparing its sales and service personnel for the work of commercializing the gas unit. It is using two sizes of commercial gas refrigeration units, one that will produce refrigeration equivalent to that of 500 lbs. of ice and the other 1,000 lbs., equivalent.

*Operating Experience*

One of the first installations was in a fruit and vegetable store where a walk-in cooler, 10 x 8 x 10 feet was installed for cooling soda, butter, milk, eggs, cheese, fruit and vegetables. Two evaporator coils were installed inside the box and connected to the gas unit which was placed outside the cooler but close by. This has been operating satisfactorily for nearly a year. The owner states that for the hot month of July his gas bill amounted to only $10 as contrasted with $15 a month he paid for ice prior to that.

Another installation is in a bar and grill. In the basement, under the bar is a walk-in cooler for precooling beer in storage and on tap. The box is 13 x 8 x 6 feet high and was originally designed for ice but ice was never used. Instead, two evaporators were suspended from the ceiling close to the rear wall and connected to a gas unit which was installed outside. A temperature of 40 degrees is maintained at all times; the owner has learned that by cooling with the gas unit there is less waste in the beer served at the tap and that savings resulting from this go a long way toward paying for the unit. The average cost for gas over a period of months has been only 32 cents per day.

Difficulties were encountered with the mechanical refrigeration at a restaurant until a gas unit was purchased. The two mechanical units, serving two separate coolers, were replaced with a single gas unit. The two coolers were fitted up with an evaporator coil each, and both were connected to the gas unit. This unit has been operating for several months with entire satisfaction, according to the proprietor of the restaurant.

Two new show case cabinets were recently installed in a grocery and delicatessen. Lack of noise inherent in the gas refrigerator was one reason that caused the owner to put a gas unit in his store. Evaporators were placed in the two show cases, which are 10 and 12 feet in length respectively, and were connected to the gas unit. This unit has operated satisfactorily for several months. It is doing work which is equivalent to melting 16,000 lbs. of ice monthly, at an average cost of $12.50 a month.

Another installation is in a dining car which has two storage coolers and two combination water coolers and Bain Maries. These four fixtures are each equipped with an evaporator all of which are connected to a single gas refrigeration unit. The proprietor enthusiastically states that "the temperature is just right and there is no drying out of foods. The operating cost is more than favorable, basing it on previous experiences in other diners I owned using electric refrigeration."

All the commercial gas refrigeration units mentioned so far in this article have been of the smaller size. Now we come to an installation of a 1,000 lb. unit in a meat market which has a walk-in refrigerator 8 x 7 x 8 feet and a display case 8 x 3½ x 5 feet. This butcher shop, having used mechanical refrigeration for years, was on the verge of going back to ice, owing to high maintenance costs, but was induced to install a gas unit. Evaporators were placed in the coolers and connected to the single 1,000 lb. gas unit which has given satisfaction ever since.

The absorption principle of refrigeration is an old principle that has been brought up-to-date and made practical for commercial purposes with the use of gas. Although still in the experimental stage, this great development, which opens up a large potential market for gas, seems like a real milestone in the gas industry. Further experience in Brooklyn Union territory will indicate the possibilities of commercial gas refrigerator sales on a large scale.

## Radio Talk on Gas Industry, Feb. 5

**In the series of weekly radio talks sponsored by the United States Department of Commerce and known as "Stories of American Industry," the program scheduled for Saturday Evening, February 5, will be devoted to the history and development of the gas industry. The broadcast period is from 5:00 to 5:30 P.M., Eastern Standard Time, and the program will be presented over the coast-to-coast network of the Columbia Broadcasting System, which includes more than 90 stations, and short-wave stations W2XE, New York, and W3XAU, Philadelphia.**

**The script on the gas industry has been prepared by Harry R. Daniel of the Department of Commerce. He will present it personally on February 5.**

**The broadcast will feature several musical numbers by the Columbia Symphony Orchestra and following Mr. Daniel's presentation there will be a short talk by a guest speaker selected by the Business Advisory Council. Copies of the script will be mailed to gas company members and others in the industry immediately following the broadcast. It is suggested that our members call the attention of their employees and friends to this broadcast.**

## Hold U. S. Chamber Posts

MAJOR T. J. STRICKLER, vice-president of the Kansas City Gas Company, is a member of the Committee on National Resources Production of the Chamber of Commerce of the United States, as well as being a director and member of the Executive Committee.

George S. Hawley, president of the Bridgeport Gas Light Company, who is also a director and member of the Executive Committee, is chairman of the National Chamber's Committee on Business Ethics and a member of the Committee on Corporate Financing.

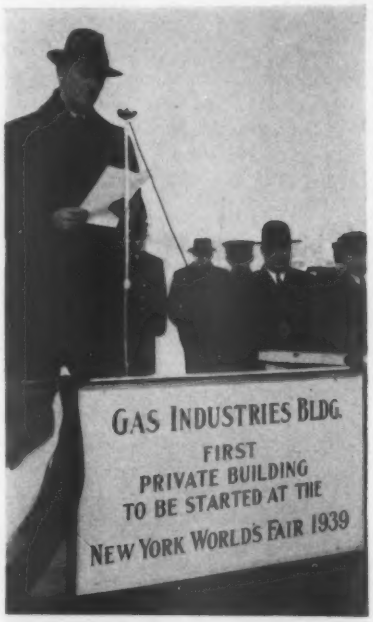
# Gas Industry First to Build for 1939 New York World's Fair

THE gas industry's importance in the plans of the New York 1939 World's Fair was emphasized Jan. 18 when exposition officials, gas utility executives, gas appliance manufacturers, and officials of the American Gas Association, the Association of Gas Appliance and Equipment Manufacturers, and others, participated in special ceremonies marking the breaking of ground on the Fair site for the first industrial exhibit to be placed under construction, that of the gas industry.

*Gas Leads Fair Builders*

It was the privilege of America's gas industry to be the first among all the industries and private groups taking part in the 1939 New York World's Fair. The significant act of driving the first pile for the foundation of the building which will house the gas industry's display was appropriately celebrated by representatives of the industry and officials of the Fair.

Grover A. Whalen, president of the World's Fair, was host to the board of directors of Gas Exhibits, Inc., the non-profit group formed by gas appliance manufacturers and gas utilities to plan and develop the gas industry's part in the Fair, at a luncheon in the Administration Building prior to the colorful afternoon ceremonies at which the first pile of the first industrial exhibit was driven for the foundation of the Gas Building.




*Hugh Cuthrell, president of Gas Exhibits, Inc.*

Mr. Whalen said at the luncheon, at which he and Hugh Cuthrell, president of Gas Exhibits, Inc., and vice-president of The Brooklyn Union Gas Company, were speakers, that the gas industry was doing a commendable work in combatting the forces of recession by going forward at this time with the building of their exhibit.

*An Act of Aggression*

In the words of Mr. Cuthrell in his address at the ceremony, "an act of aggression against recession" was committed by the gas industry in getting the exhibit building under way. The act consisted of driving the first pile for the foundations of the building the gas industry will erect. According to Mr. Whalen, who also spoke at the ground-breaking ceremonial, the occasion marked the launching of the vast construction program of private exhibitors at the exposition.

Among those who joined in the ceremonies in addition to Mr. Cuth-

*Prominent members of the gas industry who participated in the ceremony which marked the start of construction of the Gas Industries Building. Left to right: F. E. Sellman, Maximilian Moss, W. T. Rasch, C. W. Berghorn, Louis H. Skidmore, A. J. Gonnoud, George A. Humphrey, N. T. Sellman, K. R. Boyes, Hugh Cuthrell and A. K. Morgan*

rell were W. T. Rasch, president of the American Products Corp., New York; N. T. Sellman, assistant vice-president, Consolidated Edison Company of New York, and C. W. Berghorn, secretary of Gas Exhibits, Inc.

Other members of the board of Gas Exhibits, Inc., present were A. J. Gonnoud, president, Kings County Lighting Co., Brooklyn, N. Y.; George A. Humphrey, general manager, General Gas Light Co., Kalamazoo, Mich.; H. N. Ramsey, president, Welsbach Company, Philadelphia, and F. E. Sellman, vice-president, Servel, Inc., New York.

Louis H. Skidmore, architect of Skidmore & Owings, John Moss, Associate, New York; Maximilian Moss, counsel for the Brooklyn Union Gas Company; Kurwin R. Boyes, secretary, American Gas Association, and other notables attended.

*Unique Ceremony*

Color was added to the program when during the speaking, an emaciated dummy who was named "Old Man Depression" appeared with a worried expression on his face and was seen to faint suddenly. Someone shouted for help, and an emergency truck, one of a dozen special service machines present, dashed up. The crew cautiously donned gas masks, placed the apparantly lifeless dummy on a stretcher, rushed him over to the pile driver and applied an inhalator. They worked feverishly for all of thirty seconds, but the effort was in vain. A stethoscope could discover no sign of life. The public announcer system broke into Chopin's Funeral March, and at the same time the dummy was raised to disclose a large sign on his chest. The sign read "Old Man Recession."

Head first went "Old Man Recession" into the hole prepared for the first pile. A bugler sounded Taps, two Fair girl guides in orange mackinaws, blue skirts and white knitted toques released a ribbon attached to the pile, and the 90-foot "stick" of Oregon pine was lowered into the ground. The 8-ton hammer of the pile driver descended, and "Old Man Recession" began a long journey into the sub-strata of Flushing Meadow Park.

The ceremonies were brought to a conclusion by a display of fireworks with elephants and donkeys followed by three luminous doves of peace.

Mr. Whalen, in an informal address of welcome, declared that "start of construction of the gas industry's building is of particular significance, both to the Fair and to the business and industrial community . . . . it marks the first physical step in the parade of American business and industry to the Fair."

Responding to Mr. Whalen's greetings, Mr. Cuthrell stated that at the very beginning, when plans for the 1939 exposition were being drawn up, the gas industry visualized in the proposed Fair an opportunity never before available to vividly portray to the peoples of the world the far-reaching contributions of gas to modern life.

The gas industries building, occupying more than two acres adjacent to the main Shelter Building, will contain 30,000 square feet of exhibit space for displays and demonstrations. Features will include a laboratory, a model all-gas house, a theatre and a club.

Gas will be the sole illuminant for the structure, and even the golden-toned stucco exterior will be floodlighted by gas. Guarding the main entrance court will be four flaming pylons, each 90 feet high, grouped around a 50-foot gas flame which will roar skywards from a huge cube representing 1,000 cubic feet of gas.

# Rate Structure Committee at Work

*A study in concentration*

King photos

*A comprehensive discussion of rate problems took place at Association headquarters in New York, January 7 at the first meeting of the newly organized Rate Structure Committee. Photographed at the meeting were the following: left to right, seated—R. H. Knowlton, J. I. Blanchfield, D. A. Henry, chairman, A. I. Phillips. Standing—K. R. Boyes, F. T. Carmody, F. M. Terry, R. Quinby, W. J. Foster, Jr., C. G. Eichelberger, G. I. Vincent, C. F. deMey, R. P. Wagner, F. A. Knecht, A. F. Frazer, J. L. Willard, H. E. Dexter, H. H. Agee, D. A. Crawford, R. E. Keller, B. P. Dahlstrom. Present but not in the photograph, were A. G. King, R. A. Maloney and F. A. Newton. In the photograph above, left to right, are: R. Quinby, J. I. Blanchfield, C. G. Eichelberger, R. P. Wagner, G. I. Vincent, F. A. Newton.*

# A Discussion of Research

January 3, 1938

Mr. ....., President
..... Gas Company
....., .....

Dear Mr. .....:

I am in receipt of your letter of December 21 in which you discuss (1) a recently developed refrigeration air conditioning system and (2) the general subject of Association research and development work. I am always glad to hear from you because of your intelligent interest.

Summer air conditioning with gas is of course one of the most important and intriguing utilization subjects with which the industry is concerned. Summer air conditioning is a development that was built into an acceptable public service almost entirely by the use of mechanical power as the source of energy. The gas industry has adapted gas engine power to summer air conditioning and considerable load from this source is being enjoyed. On the other hand, the limitations of power for adaptation to all kinds of summer air conditioning installations were recognized and there has been developed and commercialized under Association auspices direct dehydration air conditioning that is considered a step forward for certain kinds of installations. This has just been added to the line of one of the best known concerns in the air conditioning field—as per announcement attached.

### *Air Conditioning Development*

The electric industry, as an industry, has never developed any new *kind* of summer air conditioning. They are today exclusively using power driven refrigeration, basically the same as was developed about fifty years ago by cold storage people, chiefly using steam engines, for keeping meat, butter and eggs. It was thirty-five years later before this system was applied to keeping human beings comfortable and the part electricity played in it was contributed ninety per cent by the equipment manufacturers and probably only ten per cent by the utilities. On the other hand, the gas industry through the Association developed in five years a basic contribution to air conditioning and was the chief agitator for, and very instrumental in, getting the A.S.H.V.E. comfort chart changed from a single year 'round chart to a dual chart, summer and winter. I mention these things merely to point out that in the field that your letter mentions, the American Gas Association has been an aggressive leader in thought and action.

We are trying to put additional steam back of air conditioning this Association year. A committee of executives headed by Walter C. Beckjord has held two meetings with manufacturer members of the Association, and for your information, I am enclosing minutes of these meetings. You will see from them the practical phases of this matter when they are faced by men around the table. However, two things have come out of these meetings. First, the manufacturers have been stirred and encouraged to work toward the development and production of low-priced equipment suitable for residences, and second, the Industrial Gas Section's working committee has been strengthened and placed under the chairmanship of Charles R. Bellamy, chief engineer, Columbia Gas & Electric Corporation. That committee is scheduled to meet in New York during the week of January 24, the time coinciding with the annual meeting of the American Society of Heating and Ventilating Engineers and the National Heating, Ventilating and Air Conditioning Exposition. I am enclosing copies of the reports of the Industrial Gas Section's committee for the last two years, when it was under the chairmanship of L. A. Bickel, secretary and engineer, The Dallas Gas Company.

### *Absorption Refrigeration*

But to return to the refrigerating machine you mentioned. This, as you say, is an absorption refrigerating machine which uses steam for energy. The steam absorption system, with variations, is almost as old as artificial refrigeration itself. This particular machine is a clever adaptation which has been in the development stage for a number of years, all the money having been put up by the manufacturers. Our Committee on Industrial Gas Research several years ago went over the whole thing with the manufacturer and his chief engineer and has followed through from time to time.

The system was called to the attention of the gas industry by an article on page 185 of the A. G. A. MONTHLY, May, 1936. The limitation of low pressure steam as the energy medium was of course recognized, as it is recognized by everyone who undertakes to develop any form of absorption refrigeration. W. F. Friend, a member of our committee, spent two days this month at the factory where this machine is made, and is preparing a report and recommendations for the committee meeting in January. We have made contacts with at least five other groups that have undertaken to develop absorption refrigeration and that limitation sticks out like a sore thumb.

We have encouraged and worked with another concern, as the strongest unit of its kind in our industry, toward the development of large size direct-fired refrigerating machines for (1) commercial refrigeration and (2) summer air conditioning. The status of this you can pretty well see from the minutes of the second meeting of Mr. Beckjord's committee. It will be pushed.

Our efforts in this field are being continued and of course we welcome suggestions from thinking executives like yourself.

I would like to discuss several points that bear on the latter part of your letter. Your recommendation "that the Association should employ able research men, equip them properly and set them to work in solving problems which affect the entire industry" is an ideal which we would certainly like to attain, but which for financial and other reasons it has been possible to do in part only. Over the period of the last ten years, the Association's record in research and development bears analysis.

First, experience in practically every industry is heavily on the side that employing able research men and properly equipping them is only one step in creating new ideas, new processes, new equipment and successfully placing them on the market in the face of competition. Rather that is one of several very necessary steps. Among the other necessary steps are original planning, shop testing, field testing, engineering of equipment and processes, appraisal of markets, appraisal of competition, convincing manufacturers of the usefulness and practicability of processes and equipment developed, promotion and sales. Taking that view, the Association has in connection with many projects, employed good research workers either directly or through accredited institutions, and has also, depending upon circumstances, organized or participated in one or more of the other necessary steps.

### *A. G. A.-Sponsored Projects*

In the case of direct dehydration summer air conditioning every one of these steps was carried through by the Association. Likewise with direct firing of high grade white ware in potteries, also with improved decorating of china ware. (This latter is reported in the January, 1938, A. G. A. MONTHLY.) Among other projects similarly handled were the development of diffusion combustion, bright annealing, heavy duty broiling with refractories, and the very important development of prepared, synthetic atmospheres for industrial furnaces.

The gas radiant tube for heating industrial furnaces was developed largely under American Gas Association auspices and its initial successful application to a number of very important industrial applications was entirely American Gas Association sponsored. One example of the latter is the enameling industry, where the electric industry has had to take one of the worst lickings in its history as a result of this development. A modification, American Gas Association sponsored, and as in so many other cases I might say also American Gas Association "fought through," was in the newspaper field for stereotype

melting where this development saved this load for the gas industry. These tubes submerged for soft metal melting have since been extended to the steel mills where they are building loads for gas in the huge tinning field and are now entering galvanizing.

An entirely new development announced by our Volume Water Heating Committee in its report at the recent annual convention in Cleveland is internally fired water heating for commercial and industrial establishments. That is looked upon as a distinct step forward in this large specialized field. Commercialization of the process is now going forward. (See pages 11-15, A. G. A. Volume Water Heating Committee Report, Industrial Gas Section, 1937.)

*Use of Trained Workers*

There are many other instances where all or several of the necessary research and development steps have been carried through by the Association, but I want to discuss briefly your specific point about research workers. Our various projects have been assigned to the institutions that the responsible committees have believed are in each instance the best equipped for the particular job as to personnel, equipment and knowledge of and outlook toward the field. Thus we have had the pure research phases of projects carried on by Rutgers University, University of Michigan, National Bureau of Standards, University of Pennsylvania, and our own Laboratories. Cooperative work has also been done at Massachusetts Institute of Technology, University of Illinois, University of Chicago, and others. The work these men have done has been available to all and the numerous bulletins published and test data submitted have been widely used throughout our industry, including our manufacturers, and by many heat-using industries. It certainly is our policy to use trained research men to do the basic work for which they are trained; and our Executive Board has consistently endorsed that policy and provided the necessary funds. That will continue, I feel sure, to be our basic policy.

At the present time we have three projects under way at the Cleveland Laboratories, basic research work conducted by trained research engineers in a properly equipped laboratory. This is in addition to the continuing research work which is being conducted there and known as Requirements Research which is conducted by able research men for the purpose of solving technical problems that arise in connection with the preparation, revision and application of the Appliance Approval Requirements. Of those three projects one is industrial and is known as "Research on the Effect of Reducing Atmospheres in the Combustion of Industrial Gas," being one of a series of basic research problems in high temperature gas combustion. Results of this series, as in all of our basic projects, are reported in bulletins and intermediate reports. The entire industry uses them.

The other two are basic research projects in the field of domestic utilization, one pertaining to gas ranges and the other to gas water heaters. These are probably the two most far reaching single research projects on these subjects ever undertaken, at least they have been so pronounced by a number of gas men and manufacturers. Considerable work remains to be done on both of these and the committee, in cooperation with the manufacturers, is now building up a working outline for a proposed project in direct space heating which it is hoped can be undertaken in the Spring.

*Relation with Manufacturers*

There are certain limitations, other than financial, on Association research and development work. One important one is relationship with manufacturers of appliances and equipment. In the industrial field we have avoided all difficulties, up to this time at least, and worked along from one step to the next; generally with a single manufacturer on a particular project. This has secured results. On the other hand, the manufacturers of domestic gas appliances, acting through their Association, entered objections to the American Gas Association conducting domestic appliance development or design work. Consequently, and with the approval of our Executive Board, our domestic gas range and water heater projects are pure research alone, with results furnished to all manufacturers.

A letter received this week from a firm of well known kiln builders (see copy attached) shows how some projects work out. They refer to the china decorating kiln project. On the other hand, a letter received about the same time from another concern has a different slant. We cooperated closely from the beginning with this concern in developing their new units. Technically and from many other angles the project is a success. But the company now complains that they cannot get sufficient sales through gas companies. Conducting research for research's sake is fine, but who knows what the answer will be and who is going to carry the inevitable percentage of financial headaches that any series of new and improved things leaves in its trail? Our manufacturers, on the whole, are doing a pretty fair job in spending money in this respect.

*Gas vs. Electric Research*

You compare, in the same paragraph that you mention Association research, our industry with the electric industry. The American Gas Association has to carry on for the gas industry much of the work done in the electric industry by the electric manufacturers. The Edison Electric Institute, the Association in the electric field, does not do this type of research and development work and does not need to. We must admit that the electric manufacturing companies with limitless resources have unquestionably done a bigger and better research and development job than the gas appliance manufacturers with limited resources have been able to do, though they have done a great deal. How this latter can be changed I do not know. It is perhaps a matter of money and the concentration of capital into fewer but larger groups. I can see no difference in the attitude of the gas industry from that of the electric industry except that proportionally the gas companies through the Association carry on a much greater proportion of the total cost of research and development through its various steps.

However, we well know that there is much room for improvement and extension of our activities on a larger and more aggressive scale. This must be measured in money, and budgets for this purpose are not so large as they used to be. In the meanwhile, we are doing what we can and I believe that our time-tested approach coincides very closely with your conception of the problem, and of course our objectives are the same.

I hope that the new year will be a very happy one for you.

Very sincerely yours,

/s/ ALEXANDER FORWARD

AMERICAN GAS ASSOCIATION
APPROVED
Your Aide
...IN GUARDING PUBLIC WELFARE
The famous AGA SEAL OF APPROVAL is the Building Inspector's assurance of safety and quality in gas appliances.
Appliances bearing this seal merit your complete confidence. They must conform to rigid standards—pass searching laboratory tests.
You can be positive that appliances "A. G. A. Tested and Approved" will exceed your city's strength-and-safety requirements. Look for this mark of merit — the star within a circle, of the American Gas Association — on every gas appliance.
THE PACIFIC COAST GAS ASSOCIATION
(a non-profit service organization of which your Gas Company is a member) 447 Sutter Street, San Francisco

*The first advertisement in a new series of trade journal ads for 1938 sponsored by the Pacific Coast Gas Association features the A. G. A. Approval Seal. The Seal has been animated to attract the attention of Pacific Coast building inspectors*

## New London Report

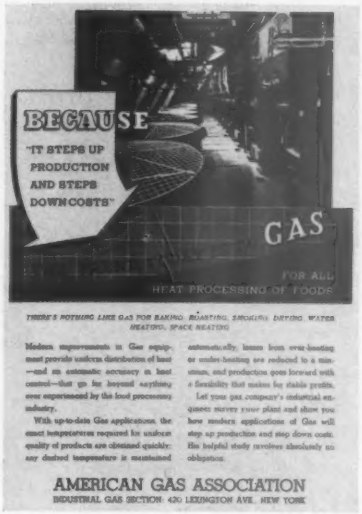
THE Bureau of Mines has issued its report No. 3365 on the explosion in the school building at New London, Texas, March 18, 1937. The authors are D. J. Parker of Salt Lake City, D. W. Jones of Pittsburgh, H. B. Bill and Gustav Wade of Dallas, all officials of the Bureau.

# The Trend Today Is to Gas

## *The Theme of Industrial and Commercial Gas Advertising*

By J. P. LEINROTH

**Chairman, Advertising Committee, Industrial Gas Section**


BECAUSE
"IT STEPS UP PRODUCTION AND STEPS DOWN COSTS"
GAS
FOR ALL HEAT PROCESSING OF FOODS
THERE'S NOTHING LIKE GAS FOR BAKING, BLANCHING, SMOKING, DRYING, WATER HEATING, SPACE HEATING
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION 420 LEXINGTON AVE. NEW YORK

THE story is told of a celebrated lawyer—a man who was noted for his success in influencing juries—that, when he was asked to give a formula for his success, he replied:

"Well, in the first place, I always tell the jury what I am going to tell them.

"Then, naturally, in the course of the trial, I tell them.

"And, before I have finished with

the case, I always tell them what I have told them."

Something of this same strategy is being employed in the advertising campaign currently sponsored by the American Gas Association, Industrial Gas Section, as part of the national campaign under the supervision of the Committee to Conduct National Advertising.

GAS DOES A BETTER COOKING JOB . . . AND AT LOWER COST, TOO!
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION
420 LEXINGTON AVENUE NEW YORK

Analysis of the major fields to be reached by our advertising, and careful consideration of the appropriation available for that work this year, convinced the committee that effort should be continued to influence the users and prospects to whom advertising was directed last year.

Consequently, the present campaign is an extension of the efforts directed

BECAUSE "It Cuts Costs and Shortens Firing Time Cycles"
GAS
FOR ALL CERAMIC FIRING
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION 420 LEXINGTON AVE. NEW YORK

FOR ALL HEAT-TREATING OPERATIONS
There's Nothing Like GAS For
THE TREND TODAY IS TO GAS
THE MODERN INDUSTRIAL FUEL
BECAUSE better heating methods insure more uniform production; and
BECAUSE GAS shortens heating-up time and saves wasteful production delays all along the line; and
BECAUSE a modern GAS installation invariably results in lower operating costs per unit—
Other hundreds of firms this year will rely confidently upon GAS to keep their selling prices effectively competitive.
Prolonged and intensive research on GAS applications has resulted in important improvements which make GAS today even more economical for all heat-treating operations. Ask your gas company for detailed facts about this new, advanced equipment which is swinging firms, both large and small, into profitable step with today's dominant trend to GAS.
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION 420 LEXINGTON AVE. NEW YORK

to six separate industrial or commercial fields, embracing the ferrous and nonferrous metals industry, the food and ceramic industries, the hotel and restaurant and the beauty parlor trades.

The industrial and commercial fields covered, and the publications used in each are as follows:

*Metal Industry*
Iron Age
Steel
Metal Progress
Metals and Alloys
Industrial Heating
Heat Treating and Forging

*Ceramic Industry*
Ceramic Industry

*Baking Industry*
Bakers' Helper
Bakers' Weekly

*Hotels and Restaurants*
American Restaurant
Hotel Management

*Food Processing*
Food Industries

*Beauty Parlors*
American Hairdresser
Modern Beauty Shop

This year, as on previous occasions, the theme of all our industrial and commercial advertising centers on the successful slogan, "The Trend Today Is to GAS."

Development of this theme is featured by specific and impelling reasons why gas is the modern fuel demanded by modern conditions of doing business.

In addition to making the prospect realize that the gas industry has developed important new information about uses for gas, and that out of this knowledge has come a variety of improved equipment to make benefits of gas more widely enjoyed, the advertising copy constantly stresses the inherent value of gas as a fuel. These stressed advantages concern the flexibility, controlability, availability, cleanliness and quick heating character of gas, together with its savings in storage, handling, space and labor costs, and its overall economy and efficiency.

A series of specific advertisements, directed to each of the selected fields, points out how gas gives many advantages over other fuels in that particular industry; and shows how use of gas helps make profits for the consumer.

While the gas industry enjoys a large and profitable load in the industrial and commercial fields, it is recognized that aggressive selling is necessary to hold that load against the attacks of competitive fuels, and that extra effort is necessary to expand the load in new fields and among new users.

This work is being facilitated by our industrial and commercial trade paper advertising, but it is impossible for advertising to bear the entire burden.

While many new users are learning about new developments in gas equipment and gas utilization through our campaign, there are many more opportunities where this advertising can be put to work for you—the gas companies who are its sponsors.

One effective way is by local circularization of reprints of the advertisements. The committee has suggested that gas companies send to their industrial and commercial prospects letters with which are enclosed reprints of our industrial gas advertisements that are of special interest to those prospects or customers.

This plan frequently has been successful in promoting the sale of gas-fired equipment and the Advertising Committee of the Industrial Gas Section recommends that gas companies take every advantage of this advertising to assure that each message does its full part in influencing the jury whom all of us are trying to reach.

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# Memorial to John S. DeHart, Jr.

THE Executive Board of the American Gas Association at a meeting on January 26 adopted a memorial to John S. DeHart, Jr. The memorial, prepared by a committee appointed by President N. C. McGowen and consisting of past presidents, D. D. Barnum, chairman, O. H. Fogg, J. B. Klumpp and P. S. Young, and A. E. Forstall, Alten S. Miller and W. E. Steinwedell, follows:

The Board records, with profound regret, the death on December 24, 1937, of John S. DeHart, Jr., director, chairman of the Finance and Control Committee, and chairman of the Managing Committee of the Testing Laboratories.

Mr. DeHart left a singularly distinctive record. In his home life, he was the loving and devoted husband and father. Toward his school, he was ever the loyal alumnus and faithfully worked for its advancement. In business life, he rose to the presidency of his company and a leader in his industry. In the affairs of his community, Maplewood, New Jersey, he was outstanding, its beloved chief executive for sixteen years. In all his activities, modesty, sincerity, courage, and unselfishness, coupled with wisdom and foresight, prevailed.

Graduating from Stevens Institute of Technology with the degree of Mechanical Engineer in the class of 1890, Mr. DeHart entered the employ of Isbell-Porter Company as draftsman, was promoted to engineer in 1896, and made president in 1904 which position he held at his death. His work with this company gave him a first-hand knowledge of most of the gas plants of the country and brought recognition which kept him in the front ranks of the gas industry until his death.

Mr. DeHart was one of the nine who signed the certificate of incorporation of the American Gas Association, and one of the sixteen directors elected to serve until the first annual meeting. Altogether he has served as a director of the Association for fourteen years during which time he served on many special committees handling important assignments. He was chairman of the Manufacturers Section for a year. He has been a member of the Finance and Control Committee since the beginning of the Association and its chairman since 1928. He has been a member of the Managing Committee of the Laboratories since its inception and its chairman since 1931.

All his labor for the Association was characterized by a willingness, an efficiency and a modesty which earned universal admiration and respect. No personal sacrifice was too great for him in the furtherance of his beloved gas industry and its Association. His keen analytical ability and his thorough knowledge of finances proved invaluable for twenty years to the Finance and Control Committee. His sense of fairness, his courage and his executive ability have been no small factors in the successful establishment and conduct of the Laboratories. As a director his kindly manner in applying his wise judgment and extensive knowledge have contributed greatly to the effectiveness of the Association and have endeared him to all with whom he came in contact. It was always a privilege and a joy to be associated with him either in business or in pleasure.

In his death, the Association has lost a counsellor whose advice will be sorely missed and whose unfailing friendliness remains a treasured memory. It is with profound sorrow the Association offers sympathy to the family of John S. DeHart, Jr.

# An Analysis of Employee Pension Plans

By ROLAND S. CHILD

Central Hudson Gas and Electric Corp., Poughkeepsie, N. Y.

*R. S. Child*

THE introduction of the Social Security plan has caused most employers to review their thinking or policy relative to the retirement of employees. In this report various elements of modern retirement plans are discussed with the hope of being helpful to member companies who are considering the subject, and as an appendix an outline of such a plan is shown. This is for purposes of illustration only as it is realized that variations will be desired to conform to conditions existing in each organization.

It is believed that a sound plan for supplementing the federal pensions can be introduced at reasonable cost by most member companies. If appropriately designed such a plan will constitute an improvement in working conditions and will afford the employer one means of maintaining an effective organization.

In general it is pointed out that the establishment of a pension plan is an actuarial problem of the first magnitude which should not be undertaken without competent advice. With such advice an accurate and understandable picture of any individual situation may be readily obtained.

**This authoritative study of employee pension plans is included in the 1937 report of the Committee on Personnel Practices. Mr. Child joined the Central Hudson Gas and Electric Corporation in 1920. Since 1932 he has been in charge of personnel work, specializing in pensions and thrift plans.**

**In the early 1920's, a study of various public and private pension systems was undertaken in connection with the increasing cost of pensions which the company had been paying for years. A method of accruing and stabilizing the costs of such pensions and of trusteeing the funds was developed and used until further study led to the introduction on January 1, 1933, of an insured contributory plan. Various changes in the latter plan have been introduced in the light of five years' experience and the introduction of the federal social security plan.**

**Mr. Child states that "in all of the foregoing the officers of the Central Hudson Gas and Electric Corporation, the specialists of the large insurance companies and others interested in the subject have had a most important and constructive part. The present report is based largely on the foregoing experience and on very helpful criticism by members of the Association's Committee on Personnel Practices."**

### *Reasons for Company Pensions*

The Federal Social Security plan provides for pensions for gas company employees. Under the present limitations of that plan (July, 1937) it seems probable that such pensions may be $50 to $60 a month for most present employees who are under age 40, and smaller for most of those who are now above that age.

Experience shows that many, if not the majority, of employees arrive at retirement age without income-producing resources of their own. At that time many have one dependent. For such employees the federal pension alone is likely to prove only a bare subsistence allowance or for many, merely a contribution toward subsistence. An old age income in addition to that of the federal plan will be necessary. Accordingly many employers who have heretofore operated pension plans expect to continue them in modified form to supplement the federal annuities, and others now contemplate the introduction of such plans, for reasons such as the following:

(1) A plan for additional pension if appropriately designed will constitute a desirable condition of employment, welcomed by most employees.

(2) Adequate pensions are an aid in maintaining an efficient organization. An employee's immediate superiors and others who have known him through many years of service are usually reluctant to recommend his retirement when he is no longer efficient unless they know that he will be adequately provided for. Instead of being retired, such employees are likely to be continued in service at full pay with resulting inefficiency and unwarranted expense. A plan under which it is known that employees may be retired without hardship to them facilitates their retirement at the time it becomes desirable. This keeps open the paths of promotion with encouragement to younger employees, and by relief from worry regarding old age may improve the employee's efficiency during his active career.

(3) Society, represented by the company's customers, will probably expect the employer to provide some additional income rather than to release a long service employee on an inadequate federal pension alone, at least in cases of need. In this connection, as far as can be learned, no regulatory commission has objected to the inclusion of the cost of properly funded pension plans as a proper element of operating cost.

### *Cost of Pension Plans*

It is essential to keep in mind the fundamental equation that the costs of any pension plan are, in the final analysis, equal to the benefits actually paid to the employees plus the cost of administration.

There are various ways of paying such costs. In most older plans paid for entirely by the employer, the benefits granted were simply paid from year to year directly to retired employees. In practically all modern plans, the cost is paid by the employer and employees jointly, funds for benefit payments being accrued at compound interest in advance of the employee's retirement.

Under the latter method, the rate of interest which can be earned is important, of course, in determining how much of the cost will be provided

by interest, and how much by the advance deposit of principal. Such advance payment of principal plus interest earnings is, in reality, the financial equivalent of the later payment of a larger amount of principal only, and the real total cost, as stated in the foregoing equation, is substantially the same under either method of financing. Under the accrual at interest method, the amount of the annual cash accruals will be determined by benefits paid plus administration costs minus interest earnings.

The yearly amount of total benefit payments tends to increase for a very long term of years after a pension plan is introduced. Under the old method of simply paying benefits from principal as due, the costs were low at first but ultimately reached, or threatened to reach, embarrassing proportions. Where costs are accrued at compound interest in advance of retirement, the appropriations for the early years are higher than the benefit payments of those years but, owing to the effect of interest, become stabilized at a lower ultimate amount less likely to jeopardize the continuation of the plan, or to have any serious effect on rates for service.

The accrual method has the further advantage that pensions once granted are provided for by previously deposited funds thus affording greater assurance to pensioners that their pensions when once granted will actually be received for life.

*Pensions Paid for by Employer Only*

Theoretically, a policy of paying pensions only to employees whose circumstances at retirement indicate that supplementary income is required would be the least costly because the total amount of benefits could be minimized. However, if such pensions are paid to certain employees, other employees are likely to expect them regardless of their circumstances and unless pensions are paid to all, the employer is placed in the position of discriminating in favor of the improvident or unfortunate employee with possible resulting ill-will from the active organization.

It seems questionable, furthermore, whether the stockholders, or ultimately the rate payers, should bear the entire cost of providing for the old age of employees.

*Pensions Paid for by Employer and Employees Jointly*

Under plans where employees join with the employer in paying the costs, pension benefits must be definitely announced in accordance with some formula and must be paid to every employee who qualifies. Also additional benefits must be provided in the form of employees equities in case of leaving the service or death. For these reasons the cost of such plans is greater in total than for most non-contributory plans where pension benefits are the same but possibly paid to fewer employees. When it is considered, however, that a substantial share of the cost of contributory plans is paid by the employees, it seems probable that fairly liberal pensions and also appropriate death and withdrawal benefits can be included at no greater cost to the employer than he would have incurred for smaller pensions otherwise provided entirely at his own expense.

It seems obvious that the employee has an interest at least equal to that of his employer in providing an adequate income for his old age, and that most employees will welcome an opportunity of paying a fair share of the cost of a soundly conceived and appropriately conditioned plan.

Practically all plans introduced in recent years, including the Social Security plan, are of the contributory type and it is believed that this type of plan is preferable to the older non-contributory plans as being no more costly to the employer, more effective in producing adequate pensions, less paternalistic and discriminatory, more equitable socially, and more likely to be soundly financed.

*Financing Medium for Contributory Plans*

When employees pay a portion of the cost they may do so through a period of 30 or more years and may be entitled to receive benefits for possibly 20 years thereafter. The benefits must be definitely specified long in advance of their payment, and their realization must be guaranteed to the fullest possible extent.

It is believed that life insurance companies by the nature of their business are uniquely qualified to continuously safeguard the principal and earnings of funds deposited over the long periods of years involved. Their net investment earnings through good times and bad probably compare favorably with those of other trust funds, and under present State regulations they may be safely depended upon to guarantee definite future results in return for the current payments of the employer and employees, a guarantee which it seems doubtful if any other sort of trustee can properly offer.

Furthermore, the guarantee of life income after retirement involves the question of probable length of life. Dealing with thousands of individuals, life insurance companies can count on the satisfactory operation of the "law of averages" regarding mortality and can safely guarantee the payment of life pensions. Other trustees except those with adequate resources and operating under actuarial check for very large groups could never be sure that a group of pensioners might not outlive the funds available.

Insurance companies handle pension plans on a group basis with simplified accounting. Their investment management cost is low. While some loading is included in their rates to provide a "contingency reserve" for protection against adverse departures from anticipated mortality rates, interest earnings, etc., the overall cost is not an excessive portion of the payments by the employer and employees. To keep administration costs at a minimum and to facilitate understanding of the plan by employees, all elements of any plan should be kept as simple as possible.

Under life insurance financing, deferred annuities for a specified portion of the future pensions are usually purchased each year for each participating employee. The annual cash payments for a given scale of benefits for any individual employee will depend on and increase with his age from year to year. The total cost in any year will therefore vary with the age distribution of all of the participating employees, being larger or smaller as the average age of the group is higher

or lower. As a result of deaths, replacements by younger employees and retirements, however, the average age in times of normal turnover tends to change only slowly, and a fairly constant or slowly changing annual cost in terms of payroll may be anticipated.

Several of the leading life insurance companies now specialize in group retirement plans and such companies are recommended as the depository of the funds of the employee and the employer in financing contributory plans. The specialists of such companies can give valuable assistance to employers in the design of a retirement plan appropriate for specific conditions and can be helpful in compiling forecasts of its costs.

### *Principal Elements of Contributory Plans*

The following principal details are discussed as a preliminary to consultation with insurance company representatives or consulting actuaries relative to the specific treatment of the various elements of a plan.

(a) *Retirement Age.* The age at which various employees should be retired will vary, of course, with individuals and their occupations and some latitude should be reserved to the employer, and also to the employee if the plan is contributory, in determining the age at which retirement shall actually occur in each case. For purposes of financing and stating the benefits of a plan, however, some normal retirement age must be assumed and the modification of benefits in cases of actual retirement before or after such normal age must be specified.

Many plans have specified a lower retirement age for women than for men. Some consideration might also be given to the desirability of a lower normal retirement age for manual workers than for other male employees.

The retirement age of the Social Security plan is 65. The normal retirement age of any supplementary plan might appropriately be the same with either stated or discretionary provision for cases of retirement prior to that age.

The lower the age of retirement, the greater the amount of total benefits which will be paid and the more expensive the plan becomes. For example, if the retirement age is 60 instead of 65, a greater number of employees will survive to receive pension benefits, and they will receive them for longer periods, the life expectancy at age 60 being approximately 23% greater than at 65 according to mortality tables used by most insurance companies for retirement plans. Furthermore for retirement at 60 instead of 65 there will be 5 less annual accruals and a loss of further interest accumulation on the pension payments during the 5 years from 60 to 65. For all these reasons the annual cash accrual for providing a given pension commencing at 60 will probably have to be more than half as much again as would be required if the pension started at 65.

The object of the plan should be to provide for adequate income at actual retirement. If an employer believes that the majority of his employees should be retired at 60 rather than 65, either 60 should be adopted as the normal retirement age and the correspondingly increased costs provided for, or a larger pension should be provided for with 65 as the normal age, contemplating that such pension would be substantially reduced for commencement prior to 65.

(b) *Retirement Benefits.* Employers with long experience with retirement plans feel that a pension of less than one-third of pay is usually ineffective —employees resisting retirement when too drastic a reduction in their scale of living is required. Approximately one-half of final pay has frequently been considered as a liberal pension. Many modern plans have attempted to provide adequate pensions by a pension formula of 1½ to 2% of the employee's total earnings. For example, if an employee earned an average of $1,800 for 30 years prior to retirement, his total earnings would be $54,000. A pension equal to 2% of this would be $1,080 a year, which is likely to be close to one-half of his final rate of pay.

The pensions of the Social Security plan are based on earnings up to $3,000 a year only. For the great majority of employees earning $3,000 a year or less, the pension on an annual basis will amount to $150 plus 1% of total earnings (or plus slightly less than 1% if total earnings exceed $45,000). For such employees a supplementary pension equal to 1% of their earnings each year would result in total pensions of approximately 2% of total earnings. For employees entering the plan at younger ages this should be close to half of final pay.

To provide approximately the same total pensions in relation to pay for employees earning more than $3,000, a supplementary plan based on 1% of the first $3,000 of annual earnings plus 2% of the excess of earnings over $3,000 would be necessary. In this connection it is believed to be at least as important to be able to retire higher paid employees on adequate pensions as in the cases of employees in the lower earnings ranges.

Under the present provisions of the Social Security Act its pensions are payable from age 65 only. A scale of pensions such as the foregoing when starting at 65 and combined with the Social Security pension would be fairly liberal. If employees are actually retired at younger ages, some provision must be made for a greater supplementary pension from such younger age to age 65 when the federal pension starts.

If 65 is the normal retirement age of the supplementary plan, and it becomes necessary to retire certain employees prior to that age, several alternatives are available. For example, the supplementary pension normally commencing at 65 could be paid in a reduced amount from the earlier starting age and some additional amount may be paid, if necessary, from company funds until age 65 is reached, or the supplementary pension may be deferred to age 65 and paid in full thereafter, a temporary allowance being paid from company funds from actual retirement age to 65.

If an earlier retirement age than 65 is specified in the supplementary plan (say age 60), an additional temporary annuity payable from age 60 to 65 only and approximately equal to the Social Security pension (say 1% of pay) should probably be included as an element of the supplementary plan.

The simplest procedure would seem

to be to adopt 65 as the normal retirement age of the supplementary plan and make the pension benefits liberal, contemplating their payment in reduced amount in cases of early retirement.

(c) *Provision for Older Employees When Starting a Plan.* Supplementary benefits such as the foregoing should result in adequate pensions for those who enter the service in the future, and for the present employees who are not over age 35 or 40 when the plan is introduced, since such employees would have many years of participation during which their pension benefits would accumulate.

Obviously when the plan is initiated this scale of benefits alone would prove inadequate for the older employees having fewer years to participate in such a plan before reaching retirement age. Additional pensions will be necessary for such employees if their total pensions are to be adequate.

Such additional pensions are frequently referred to as "past service pensions," and, of necessity, are usually provided entirely at the employer's expense. While they are necessary to facilitate retirement of older employees such additional allowances are actually not related in any way to "past service" which presumably has been fully paid for by wages. When introducing a contributory plan, however, the provision which the employer expects to make for the older employees has to be stated. The formula for this is usually based in some way upon years of prior service, or some limited number of such years, being designed so that reasonably adequate total pensions will result in the majority of cases.

For economy, such additional pensions as are announced should be such as would unquestionably be required, contemplating that in a few special cases further additions may be required and can be provided at the employer's discretion at the time of retirement.

Various formulas have been used for such additional pensions for the older employees. For example, 1% of pay at the introduction of the plan times years of prior service or times the years of prior service subsequent to age 40 or 35, or a percentage of such pay starting at perhaps 1½% or 2% for prior service during older age periods and diminishing to a very small percentage for prior service during younger age periods. In this connection it should be noted that for the older employees the Social Security pension will be $12.50 a month more than a straight 1% pension. Such $12.50 may reduce to that extent the additional pension otherwise necessary.

Of course if an employer has previously had a pension plan in effect, the provisions of that plan for service to date are likely to be controlling as to past service when modifying the plan to a supplement to the Social Security plan.

Such announced additional pensions would be one of many considerations for older employees joining the plan and the corresponding cost would represent a liability of the employer. Such liability could be contingent upon the employees reaching retirement age, or employees may be given an equity therein after meeting specified conditions of age and service.

Such liability might be funded by the immediate deposit of funds at interest, or it may be spread over the years between the introduction of the plan and the normal retirement age of the employees affected, or by making the necessary payments at the actual retirement of each employee or at such time as the employee is given an equity in such additional pensions.

By treatment of additional pensions as indicated above, the staggering amounts sometimes estimated for the immediate provision for "accrued liabilities" based on unnecessarily large benefits corresponding to all past service of all employees can be very greatly curtailed, and a supplementary plan can be brought more readily within cost limits likely to be approved by directors.

(d) *Death and Withdrawal Benefits.* In addition to pensions, benefits in cases of death before or shortly after retirement, and in cases of leaving the service prior to retirement, must be stated in any plan under which the employee pays part of the cost.

To make some provision for the contingency of death shortly after retirement most plans provide an option to the employee to select, under certain conditions, a joint annuity in reduced amount payable to a specified beneficiary as long as such beneficiary may survive him. Also it is usually guaranteed that pension payments shall at least equal the total amount which the employee had paid as a participant in the plan, any deficiency to be paid at his death after retirement.

A large number of employees will leave the service before retirement. They must be guaranteed at least the return of the payments they have made. This return may be in cash or in the form of a paid up annuity purchased by the employee's payments and interest thereon. While it seems socially desirable for the employee to take a paid up annuity as a supplement to his Social Security pension, many employees will prefer, or require, a cash return.

### *Interest Return*

Some plans provide for the return in cash of the employee's principal only, others also provide for an interest return, frequently after a waiting period. Such interest is nominal in amount until after fairly long periods of participation, but in the minds of many younger employees the inclusion of an interest feature may increase the attractiveness of a plan. If an interest return is considered desirable, a reasonable rate might be paid on the employee's payments up to the time he is given an equity in the annuities paid for by the employer (discussed below), after which some curtailment or limitation of interest might be appropriate.

The same cash return will probably have to be payable in case of death before retirement as in cases of leaving the service. If the return includes interest it will make a substantial increase in the cost of a plan on account of deaths after long years of participation. If a group life insurance plan is also in effect it seems less necessary to provide for an interest return on pension refunds at death since a large additional death benefit from group life insurance is payable.

NOTE: In this connection employers operating group life insurance plans, or contemplating their introduction, might con-

sider the return which will be available from the pension plan and from Social Security in case of death when modifying, or determining, the benefits of the group life insurance plan.

Plans may be designed so that in cases of an employee leaving the service prior to retirement, all payments which the employer had made on account of his pension revert, with interest, to the employer. The modern trend, however, is to grant the employee an equity in the pensions provided by the employer's payments after various periods of participation in the plan, or after arrival at a specified age, or both. Such equity is usually in the form of a paid up annuity only, and is contingent upon the employee using his payments for a paid up annuity.

*Employee Equity*

In determining the conditions under which such equity will be granted, it should be kept in mind that after funds have accumulated for a considerable number of years they will represent a substantial amount which would be credited to the employer's annual cost if not vested in the employee. Any equity given to the employee will naturally affect the net cost payable by the employer. On the other hand reasonable vested interest will be expected by the employee, and will facilitate the solution of those cases of employees who became superannuated before the normal age of the plan. In the Social Security plan, equity in the pension paid for by the employer's taxes vests in the employee from his entry into the plan.

In determining the foregoing benefits and employees' equities, it should be kept in mind that the total cost of the plan will be increased with the liberality of such benefits. The main object of a plan should be adequate retirement incomes, and funds of the employer and of the employee should be conserved as far as possible for this object rather than being dissipated on unnecessarily large corollary benefits.

(e) *Payment of Costs.* The portion of the cost paid by all participating employees is usually an approximately uniform percentage of their pay, although in some cases higher percent-

(Continued on page 78)

# New Orleans To Be Host to Natural Gas Department

By E. H. POE
Secretary, Natural Gas Department

THE annual meeting of the Natural Gas Department of the American Gas Association will be held in New Orleans May 9-12. In addition to a constructive and attractive program which is being planned by the Program Committee, and the elaborate entertainment for which the General Arrangements Committee, headed by Jay C. Barnes, of the New Orleans Public Service Incorporated, is preparing, this splendid old city offers many unusual attractions to visitors. It is one of America's most interesting cities, with a romantic and historical background.

*The heart of old New Orleans*

Some cities know history only as a written record, while others know it only as a monument marking the spot where the first settler built the first cabin, bank, theatre, or other landmark. This, combined with the evolution of a progressive, ambitious nation, brings about a metamorphosis which slowly but surely obliterates traces of our beginnings. In 1718, one hundred and seven years before the first utilization of Natural Gas in America, this little French settlement was established. It has developed into a modern city of one-half million people with billions of dollars invested in business and industry. But unlike many other American cities, a peculiar reverence for the past has led to the preservation, almost intact, of practically all the landmarks of her early history, and kept alive the traditions of years gone by.

Modern and progressive, antique and picturesque, romantic and Old World, business-like and American, our host city offers the contrast of an old and a new civilization. The oldest city of the Mississippi Valley—one of the South's largest—its inhabitants in recent years have seen almost eight miles of wharves and steel and concrete transit sheds constructed along the shores of the Mississippi. They have crossed a majestic bridge over that river where many engineers said no bridge could be built, and have seen this mighty river at flood stage subside at the opening of a new man-made flood project.

All forms of development have taken place. It is a leading wholesale, retail, industrial, and financial center. It is the second port of the nation in value of foreign commerce. At the heart of the city, the river is deep enough and wide enough to float the greatest of ships, which means that the ports of the world are within easy reach. Thirteen thousand miles of inland water-ways terminate there and make it the country's "Grand Central Station" for river, steamboat and barge lines.

Splendid railway facilities, motor transports, and air-lines, complete the picture to give New Orleans unlimited distribution facilities. More than one thousand manufacturing plants are in operation. Many of them are made possible by the production of oil, natural gas, sulphur, salt, and agricultural products, such as cotton, sugar cane, and rice, within the state of Louisiana.

New Orleans is the chief banking center of the state of Louisiana, which state is blessed with almost unlimited richness in natural resources. For years one of the leading natural gas producing states and through the discovery of new fields and the exploration of lower levels in old fields, it is now the fourth oil-producing state in the Union.

So when you are in New Orleans, you are in a modern city, possessing the industrial enterprize, the commercial attainments, the cultural achievements, and the intellectual pursuits that many cities have, but across Canal Street, you find them still preserving the "Vieux Carre" (French Quarter), a lovely old section with unique and mysterious charms—Pirate's Alley; The Cabildo, erected in 1795; The Pontalba Apartments; balconies embroidered in myriad patterns of wrought iron and cast iron; beautiful gardens; stately old mansions; beautiful parks; live oaks with hanging moss; and many other interesting and delightful places to see and things to enjoy.

Truly, New Orleans is two cities in one. Your meeting in May will have the facilities of fine hotels, exquisite and spacious meeting places for all sessions, and superb entertainment, planned under the stimulus of our host companies in Louisiana.

It is anticipated that there will be great interest in Natural Gas in New Orleans May 9-12.

# Servicemen's School Outlines New Developments in Gas Appliances

**A school for the purpose of training fitters and service supervisors is being conducted by The Derby Gas and Electric Company, Derby, Conn., in cooperation with appliance and equipment manufacturers. The school opened January 19 in the company's auditorium and will continue on February 16 and March 16. The following discussion of its aims and purposes was prepared by A. M. Apmann, new business manager of the company.**

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THE development of gas appliances during the past five years has been so rapid and has produced so many new and different types of appliances and controls that it has been difficult for the average appliance man—salesmen, supervisor or customer's service fitter—to become familiar with the principles and methods involved. In fact, the engineering skill of the manufacturers of appliances has developed so many differing types of controls and accessories that only the highly trained technical utilization engineer could keep abreast of the changes and new developments.

Appliance manufacturers in bringing out these new developments have worked to the utmost to provide satisfactory servicing methods for keeping these appliances in operating condition necessary to gain the approval of the A. G. A. Testing Laboratories. Methods alone have been insufficient to completely satisfy the painstaking customer's service fitters. Realizing this some of the appliance manufacturers have started individual training schools for employees of the smaller companies. However, with the exception of the larger metropolitan gas utilities who maintain their own educational force no attempt has been made to coordinate such training.

### *Mechanical Skill Adequate*

In preparing a training course for fitters and service supervisors certain definite assumptions must be made so that maximum results can be obtained. Realizing in advance that the average fitter has good mechanical ability it seems unnecessary to carry on any training in the actual mechanics of installation or servicing work. It is also realized that as the saturation of any appliance increases, the servicemen learn from time-honored methods of trial and error. In this connection it is also found that the sales representatives learn whether the features which they described in glowing terms to the prospective customer have materialized as they anticipated. Even with methods perfectly established in the minds of the servicemen the lack of understanding of the fundamental principles makes the servicing task a difficult procedure.

On these assumptions, namely, that mechanical skill is adequate; that servicing of appliances on which any degree of saturation existed has been learned by experience, and finally that the underlying principles of construction and operation are absolutely essential, the following course of instruction was created. This course centered around the fact that appliance manufacturers were held to very rigid requirements for the approval of their appliance. In order for these to prove satisfactory, appliances must be installed, adjusted, operated and serviced correctly to maintain the same degree of performance. Accordingly an explanation of the Laboratories' Requirements as they affect the installation and servicing of appliances is given a prominent part.

Following this will be three full-day sessions on the principles of controls, accessories and appliances. Realizing that pressure regulators are being required to a greater extent by laboratory committees and also to offset fluctuations in distribution systems the opening discussion will be on principles, design and characteristics of the various types of gas regulators. Following this will be the discussion on thermostats used for ranges, water heaters and similar appliances.

A discussion of the operating characteristics and results to be expected from gas ranges will be next on the program. By the previous discussion of gas pressure regulators and thermostats the range manufacturers will be freed from the necessity of explaining the action of these accessories and will devote the entire time to the discussion of the principles involved in the construction and operation of the ranges. This is also the case of the automatic water heaters which will include the conversion type, the small automatic flow and the full automatic storage type heaters. Later the principles of househeating equipment, space and unit heaters and automatic temperture controls will receive their share of attention.

It is too early to tell what the results will be. It is anticipated, however, from the preliminary instruction work which has been given by two manufacturers to a small group of fitters that the results will be very satisfactory in reducing the number of service calls completed and increasing the number of service calls finished on the first visit. While this instruction course was prepared for the men of The Derby Gas and Electric Company, so much interest was aroused during the preliminary discussions that it has been thrown open to all companies who might be interested. At least 80 men from other Connecticut and Massachusetts Gas Companies have been delegated to attend.

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# Interesting Facts about the Gas Industry

INVESTMENT in the gas industry exceeds by many millions the amount of capital employed in the production of steel which has long been considered one of the most basic of the great industries of the United States. While some $4,200,000,000 have been invested in the steel plants of this country, almost $5,000,000,000 of capital is required to provide gas service to 17,000,000 customers.

Today, towns and cities with a population of more than 80,000,000 people have available the innumerable conveniences afforded by gas service.

More than 135,000 people are employed by the manufactured and natural gas companies of this country at an annual payroll in excess of $213,000,000.

An interesting sidelight on the contribution of the gas industry toward improved living conditions for the workers engaged in supplying this essential service is indicated by the fact that, whereas in the big year, 1929, the average employee in the gas industry worked 48 hours per week, by 1936 this had been reduced to 40 hours per week, and yet his average weekly earnings for the 40-hour-week were slightly higher than in 1929.

An important factor in this accomplishment and in the maintenance of the high standard of service to which gas customers have become accustomed, is the tremendous amount of capital that stands back of each worker in the gas industry. For example, in the automobile industry, approximately $3,000 has been invested in plant and machinery for each worker employed. In the case of steel, this figure is nearly $7,000, while the railroads have an investment of approximately $25,000 for each employee. Yet the average worker in the gas industry has behind him the tremendous investment of nearly $37,000.

Wages and salaries in the gas industry are high, amounting to an average of $1,575 a year, as compared with $1,421 for steel and $1,470 for the automobile industry. And yet for each dollar disbursed by the gas industry in the form of wages and salaries, an additional forty cents is turned over to the various state, federal and local authorities in the form of taxes.

# *Personal and Otherwise*

## McCarter Medals Awarded for Life Saving

*Hugh W. Robbins, center, receiving a McCarter Medal from H. Carl Wolf. Carl E. Hartley, at left, was awarded a certificate of assistance*

AWARDS of national recognition in the form of McCarter Medals and Certificates were made to a select group of employees in recent months for their outstanding acts in life saving by means of the Schafer prone pressure method of resuscitation.

Among those honored were two employees of the Central Indiana Gas Company, Muncie, Ind., Hugh W. Robbins and Carl E. Hartley. Mr. Robbins received both a certificate and the McCarter Medal and Mr. Hartley received a certificate of assistance.

The act for which the men were cited took place last March while they were at work reading meters. Their timely and courageous efforts in applying artificial respiration by the Schafer method resulted in saving the life of a woman who had been overcome by gas.

In presenting the award, H. Carl Wolf, president of the company, said: "We are indeed happy for our two employees that they have been given this national honor. It is symbolic of the high type of public service our employees render both in emergencies and in the routine performance of their tasks."

Charles M. Hoffer, an employee of the Public Service Company of Northern Illinois, Chicago, received a McCarter Medal and Certificate on December 20 at a luncheon meeting of the employees' general council. Mr. Hoffer had performed a conspicuous public service by aiding a woman who had been asphyxiated by gas. The presentation was made by Britton I. Budd, president of the company, in the presence of approximately 200 persons.

Another employee to join the honor roll of the gas industry was J. Stephen Hanisco, of The Philadelphia Gas Works Company. Mr. Hanisco received a McCarter Medal and Certificate at a meeting of President Conrad N. Lauer's staff on December 21. Mr. Hanisco was presented by T. S. Lever, controller, to President Lauer who congratulated him for his splendid achievement in winning the medal and certificate.

The McCarter Medals are awarded by the American Gas Association through the generosity of Thomas N. McCarter, president of the Public Service Electric and Gas Company, Newark, N. J.

## Elected A.F.A. Director

HENRY OBERMEYER, assistant vice-president of Consolidated Edison Co. of New York, was elected a director of the Advertising Federation of America at a meeting in New York on January 12. Mr. Obermeyer is chairman of the American Gas Association's Publicity and Advertising Committee.

## Appointed to Lead A. G. A. Personnel Committee

*Paul W. Herring*

TO head the Committee on Personnel Practices of the American Gas Association President N. C. McGowen has appointed Paul W. Herring, who has spent his business career with The Peoples Gas Light and Coke Company, Chicago. Twenty-nine years ago Mr. Herring started as a clerk in the distribution department, subsequently organizing the stores accounting and payroll departments, and thereafter for some twenty-five years dealing with personnel activities of the company.

For the past thirteen years Mr. Herring served as assistant to the vice-president in charge of public and industrial relations, with duties involving employment, training, employee representation, suggestion systems, safety and medical activities, and customer relations activities with respect to general service. Last August Mr. Herring was made director of employee relations of his company. He has been actively interested in the committee work of a number of local and national organizations, including Chicago Association of Commerce, American Management Association, Industrial Relations Association of Chicago and the American Gas Association.

Organized less than two years the Committee on Personnel Practices is rapidly earning an enviable reputation. It is made up of specialists in the important field of industrial relations, the handling of men, production and sales as a function of management. The 1937 report of the committee contained comprehensive studies on training, employee retirement systems, employee finances and life insurance plans. The demand for copies of the report has been extensive, many requests coming from other than utility companies.

## Subway Sniffer on Air

FRED ALLEN, above left, star of the "Town Hall Tonight" radio program, is shown interviewing Samuel Turner, one of the four men employed by the Consolidated Edison Company of New York to sniff for gas leaks in the subways. The program, in which Mr. Allen brings before the microphone people who have unusual jobs, was broadcast January 5 over an NBC network.

Mr. Turner has been sniffing for 14 years, the last eight years in the subways of New York. Each year the company's medical bureau gives him a test in which he must identify bottles containing ammonia, rose water, gasoline, peppermint, lemon oil and drip oil. At the rate of 676 sniffs a day, Mr. Allen estimated that at the end of 10 years Mr. Turner would have given the world 1,762,000 sniffs. As the theme song for a gas sniffers' convention Mr. Allen suggested "Inhale! Inhale! The Gang's All Here!"

## Credit Belongs to Ed. S. Smith, Jr.

61 Broadway, New York,
December 8, 1937.

Alexander Forward, Managing Director,
American Gas Association,
420 Lexington Avenue,
New York, N. Y.

Dear Major Forward:

In reviewing the recent American Gas Association and American Society of Mechanical Engineers reports on the decade of joint research conducted to establish better coefficients for the thin disc orifice, some of us associated with the work have felt that in view of the relatively recent appearance (1929) of the acoustic ratio, it is desirable to indicate clearly that this useful operator was devised and first employed by Ed. S. Smith, Jr. early in 1929.

The almost simultaneous appearance of papers by Swift (in early October, 1929) and by Hodgson & Smith at the Tokio meeting of the World Power Conference (in late October, 1929) left some doubt as to the real origin of the operator. Smith developed and presented it in concrete form at an open meeting of the Fluid Meter Committee in Rochester, N. Y. on May 15, 1929.

The essential improvement of the acoustic ratio over the older acoustic velocity ratio is the simpler manner in which the specific heat ratio is introduced in the acoustic ratio, thus making it possible to co-ordinate the research data on compressibility effects of gases of different composition in a single plot in the same manner as viscosity effects are correlated by the use of the Reynolds number.

Yours very truly,

R. J. S. Pigott,
Thos. R. Weymouth.

## Gas Practice Course Gains Enrollments

ON December 23, 1937, The Brooklyn Union Gas Company enrolled its thirteenth annual class in the course in American Gas Practice offered for Home Study by Columbia University and sponsored by the American Gas Association. The continued use of the course year after year for thirteen years by this company constitutes one of the finest endorsements possible. This year's group consists of 28 employees. Many are men who have shown ability in the preliminary courses prescribed by the company. Others are cadet engineers or other college men recently employed.

The course in American Gas Practice was started in 1925 at the request and under the supervision of the Association, and has had a total enrollment of nearly 1900 students. The course supplies by correspondence a great need for instruction in the specialized field of gas company operations. Since it was revised in 1933, 232 enrollments have been made of which 88 have completed and received certificates and 124 are actively working on it at the present time.

After revision the course was made available in either one or both of two parts. The first part covers gas plant operations while the second deals with transmission, distribution, utilization, and other phases of gas company operations. It is conducted under the personal direction of Professor J. J. Morgan, its author.

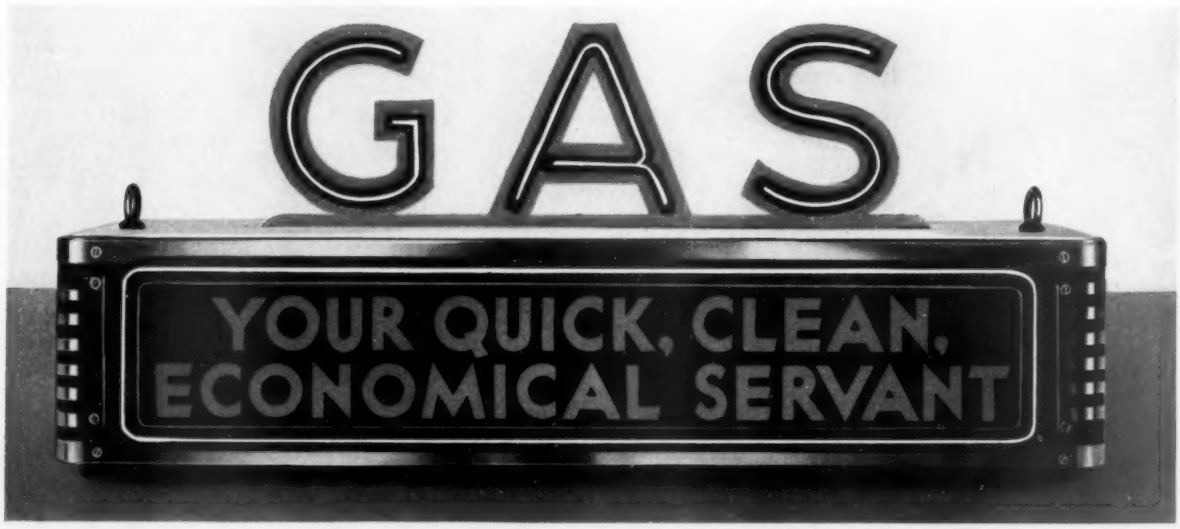
Since each student in the course works independently, enrollments are received at any time. For a circular or other information regarding the course write Professor J. J. Morgan, Havemeyer Hall, Columbia University, New York City; or the American Gas Association, 420 Lexington Avenue, New York, N. Y.

## Dr. Briggs Elected Head of Physical Society

DR. LYMAN J. BRIGGS, director of the National Bureau of Standards, was elected president of the American Physical Society at the annual meeting in Indianapolis on December 28.

Dr. Briggs has made many contributions in the field of physical measurements. For 20 years he directed the physical laboratory of the Bureau of Soils, and later the biophysical laboratory of the Bureau of Plant Industry. He joined the staff of the National Bureau of Standards in 1917.

# National Advertising Slogan in Neon




*One hundred and fifty-four companies are now using the above sign in show windows, counters, and various locations on the sales floor. The sign operates on alternating current. A converter, at small additional cost, is necessary to operate it on direct current. The entire job consumes about thirty-five watts of electricity. The sign is 9 in. high, 22 in long, 5½ in. wide and weighs 10½ lbs. Offered by the A. G. A. Committee to Conduct National Advertising, the price is $13.50, F.O.B. Lima, Ohio. Safe delivery is guaranteed.*

## J. J. Hassler Resigns, To Practice Law

JOHN J. HASSLER, who has been associated with the Federal Communications Commission, Washington, D. C., for the past four years as assistant to Commissioner Paul A. Walker, and as an engineer, has resigned to engage in the practice of law and engineering in partnership with Scott Ferris of Oklahoma City.

Prior to Mr. Hassler's connection with the commission, he was for three years gas and electrical engineer for the Corporation Commission of Oklahoma. He received his B.S. degree in Engineering from Oklahoma A. & M. College, completed his law studies in the National University Law School, Washington, D. C.

## Book Reviews

*History of the Gas Industry* by Louis Stotz—300 pages, illustrated.

The author of this book has spent the better part of his life in the gas industry. Sensing the need for a popularly written treatise on the gas business he elected himself to do the job. He has produced a manuscript, now being worked into book form, which holds out high promise of meeting a long felt need for a practical treatise covering the major developments of an industry with 120 years of development to its credit.

For some unaccountable reason, there is a paucity of books on the gas industry. There are several excellent ones which cover the engineering phases only. There are about three others which deal exhaustively with the history of the manufactured gas industry. The advent of long distance natural gas pipeline systems has revolutionized the industry within recent years and yet no book is presently available which covers this subject. In the manuscript written by Mr. Stotz the natural gas industry comes in for extended comment.

In preparing this manuscript Mr. Stotz has had in mind the idea of producing a volume that will appeal both to persons within and without the gas business. It is a fast-moving manuscript, easy to read, and non-technical in style. The story is primarily designed to convey an understandable picture of the gas business to the average reader.

For those who desire a good background of easily digested factual information on the industry, and there must be thousands of such, the book will have a strong appeal. Its usefulness, however, is by no means restricted to the libraries of gas companies. It should occupy a place on the shelves of school and college libraries, financial institutions, insurance companies, chambers of commerce, and other civic bodies. Much of the material in it can be utilized for speeches, articles and publicity stories. In many other respects it will serve as an up-to-date reference work.

The book can be ordered direct from Louis Stotz, Care American Gas Association. Single copies $3.50; ten or more, $3.00 each.

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*Covention Proceedings, National Association of Railroad and Utilities Commissioners*—The convention proceedings of the forty-ninth annual meeting of the National Association of Railroad and Utilities Commissioners, held at Salt Lake City, Utah, Aug. 31-Sept. 3, 1937, contain a vast amount of information on the vital problem of public utility regulation. The subjects presented for discussion by prominent specialists challenge the interest of federal and state regulatory commissions, accountants, valuation engineers, public service corporations, investment trusts and others concerned with regulatory problems.

Membership of the Association consists of State regulating commissions, the Interstate Commerce Commission, the Federal Communications Commission, the Securities and Exchange Commission, and the Federal Power Commission. The Association acts as a clearing house for the regulating agencies of the United States. The convention reported in this volume was the largest in the Association's history.

The Proceedings are for sale at $6.00 a copy by the Association's official reporters and publishers, The State Law Reporting Company, 30 Vesey St., New York, N. Y. The volume contains 580 pages, with a copious index, attractively bound and well printed.

## Convention Calendar

### FEBRUARY

**3-4** **A. G. A. Eastern Natural Gas Regional Sales Conference**
Roosevelt Hotel, Pittsburgh, Pa.

**10** **Pennsylvania Gas Association, Sales Conference**
Philadelphia, Pa.

**10-12** **A. G. A. Mid-West Regional Gas Sales Conference**
Palmer House, Chicago, Ill.

**14-18** **American Institute of Mining & Metallurgical Engineers**
Engineering Societies Bldg., New York, N. Y.

**16-18** **Southern Gas Association and A. G. A. South-Southwestern Regional Gas Sales Conference**
Hotel Adolphus, Dallas, Texas

**24-25** **New England Gas Association**
Hotel Statler, Boston, Mass.

### MARCH

**7-8** **A. G. A. National Conference on Industrial Gas Sales**
William Penn Hotel, Pittsburgh, Pa.

**16-18** **Wisconsin Utilities Association—Gas Section, Technical and Commercial Divisions**
Schroeder Hotel, Milwaukee, Wisc.

**16-18** **American Association of Petroleum Geologists**
Roosevelt Hotel, New Orleans, La.

**21-25** **American Society for Metals Western Metal Exposition★**
Los Angeles, Calif.

### APRIL

**4-6** **A. G. A. Distribution Conference**
Netherland Plaza, Cincinnati, Ohio

**11-13** **Mid-West Gas Association**
St. Paul, Minn.

**18-21** **American Chemical Society—Division of Gas & Fuel Chemistry**
Dallas, Texas

**20-22** **Missouri Association of Public Utilities**
Jefferson Hotel, St. Louis, Mo.

### MAY

**2-5** **U. S. Chamber of Commerce**
Washington, D. C.

**3-5** **Pennsylvania Gas Association**
Sky Top Lodge, Sky Top, Pa.

**9-12** **A. G. A. Natural Gas Department**
Roosevelt Hotel, New Orleans, La.

**9-13** **National Fire Protection Association**
Atlantic City, N. J.

**13-15** **National Petroleum Association**
Cleveland, Ohio

**14-21** **International Petroleum Exposition**
Tulsa, Okla.

**23-24** **A. G. A. Commercial and Hotel & Restaurant Sales Conference**
Belmont Plaza Hotel, New York, N. Y.

**23-25** **American Petroleum Institute, Mid-Year Meeting**
Wichita, Kansas

**24-26** **A. G. A. Production & Chemical Conference**
Hotel Pennsylvania, New York, N. Y.

### JUNE

**7-9** **Edison Electric Institute**
Atlantic City, N. J.

**9-10** **Canadian Gas Association**
Royal York Hotel, Toronto, Ontario

**23-24** **New England Gas Association, Sales Conference**
Viking Hotel, Newport, R. I.

**June 28-July 1** **American Home Economics Association**
William Penn Hotel, Pittsburgh, Pa.

### OCTOBER

**Wk. 10** **American Gas Association**
Atlantic City, N. J.

**10-14** **National Safety Council**
Stevens Hotel, Chicago, Ill.
**National Metal Congress and Exposition★**
Detroit, Mich.

★ Includes exhibit sponsored by A. G. A. Industrial Gas Section.

## *Accounting Section*

D. H. Mitchell, Chairman H. W. Hartman, Secretary H. A. Ehrmann, Vice-Chairman

# Prize Awards for Meter Reading Efficiency

By E. N. KELLER
Philadelphia Electric Company
Philadelphia, Pa.

THE meter reader's job is usually taken for granted as being one without particular significance, perhaps because he does his work in such an efficient, quiet manner without an opportunity for spectacular performance.

Articles covering performance of readers in other utilities focused attention on this subject and resulted in a review of the performance of meter readers. The readers' incentive plan in use provided for penalties for incorrectly read meters but no additional compensation was being allowed for perfect scores.

In January, 1935, a plan was developed for payment of prize awards to the meter readers for accurate work. The plan provides for the payment of $2.50 monthly to each man who completes his month's work without having an error charged against him. In addition, there is also a provision that every reader who completes a period of one year without an error is paid an additional award of $20. For the completion of two successive years without an error, the additional award is $40, and for three successive years without an error, the additional award is $50. The total cumulative award paid to a meter reader for one year of accurate work is $50; for two years $120; and for three years $200. While nothing definite has been authorized for awards after the third year, the plan will probably be continued on the same basis as the third year award of $50, plus the usual monthly awards.

### *Counting Errors*

An error is defined as an incorrect reading of any meter, without regard to the source of the discovery of the error. All errors in meter reading are counted and charged in the month in which they are discovered. An error is charged for an incorrect meter reading that is noted during investigations ordered by the Billing Department or others, and does not necessarily have to result in a customer complaint.

The plan has operated satisfactorily in reducing the number of meter reading errors. Errors are expensive whether discovered internally or reported by the customer. In these latter cases customer irritation as well as expense is involved.

During 1935, there were 537 monthly awards paid. In 1936, there were 609 monthly awards paid. Approximately 75 per cent of the 153 meter readers participated in the monthly awards.

Contributed by the 1937 Office Management Committee, John J. Natale, Chairman.

Five men received the yearly award in 1935, which is sufficient proof that the feat is not impossible, although remarkable. One of the 1935 award winners has also completed 1936 without an error, which has made him eligible for the two-year prize. This performance becomes even more impressive when it is noted that it involved reading 129,968 meters during the two-year period, without error.

Four other readers who completed 1936 without an error read 227,240 meters, or an average of 56,810 meters each. In addition, nine readers had only one error each; three had two errors each; and two had three errors each.

This is an illustration of the endeavor of the men to do accurate work, not simply because of the prize award, but because of their earnest effort to do their work in a proper manner.

### *Customer Complaints*

The record of errors is kept carefully and accurately. The tabulation shows that of the 9½ million meters read in 1936, there were but 5,435 errors made, of which only 631 reached the customer and caused customer complaints. The total errors represent but 0.057 of 1 per cent of the total meters read and is 10 per cent under the total errors made in 1935. The 631 errors causing customer complaints is an extremely low figure—0.0066 of 1 per cent of the total meters read.

The reading of meters is the most important part of a meter reader's daily work, but many other items enter into his regular duties. He represents to some customers the only means of contact with the company and, therefore, is expected to answer many inquiries regarding company practices and policies. In addition, he is expected to report unusual conditions brought about by irregular use of service, accounts billed on the wrong rate, and many other incidental items.

The reader takes all these things in his stride and meets an ironclad schedule, in many instances under most adverse conditions and in all kinds of weather.

The performance outlined herein represents a truly remarkable record, particularly in view of the difficulties the reader encounters in obtaining and checking his readings. The additional expense incurred by the company is considered a good investment, in that both employee relations and customer relations are favorably affected by the results obtained under the plan.

## Natural Gas Fellowship Awarded to E. K. Schluntz

*Earl K. Schluntz*

THE Natural Gas Supply Men's Fund Fellowship for 1937-1938 was awarded to Earl Kenneth Schluntz who graduated in June, 1937, from Coe College, Iowa, with major honors in chemistry and minors in physics and mathematics. While not a son of people engaged in the natural gas industry, he nevertheless qualifies for the appointment as a man who has been 90 per cent self-supporting through college and who is interested in pursuing technologic studies along lines that are important to this industry.

Mr. Schluntz will pursue his graduate studies and research in the School of Mineral Industries of The Pennsylvania State College. This School is unique among institutions of higher learning in that it unites under one roof resident instruction and research in the earth sciences, including geology, geophysics, geography and related subjects; mineral engineering and economics, including mining and petroleum and natural gas production; and mineral technology, including ceramics, metallurgy and fuel technology.

Resident and extension instruction in natural gas engineering as well as research on natural gas are important features of the program of the school. For several years the Experiment Station of the school has been engaged in studies on the chemical behavior of natural gas with the cooperation of the Pennsylvania Natural Gas Men's Association. Well-equipped laboratories are available both for student and research use. Among the special facilities available for experiments on natural gas are dead weight gauges for calibrating pressure gauges, gas density balances, various types of meters, low temperature fractional distillation apparatus, moisture determination apparatus.

## *Commercial Section*

Hugh Cuthrell, Chairman J. W. West, Jr., Secretary F. X. Mettenet, Vice-Chairman

# Regional Sales Conferences Hold Spotlight during February

THREE regional gas sales conferences sponsored annually by the Commercial Section will be held during February. The Eastern meeting will be held February 3 and 4 in the Roosevelt Hotel, Pittsburgh; the Mid-West conference, February 10-12 in the Palmer House, Chicago; and the Southern-Southwestern meeting, February 16-18 in the Adolphus Hotel in Dallas, Texas. The latter will be held in conjunction with the annual convention of the Southern Gas Association.

Each year these conferences present a wide array of topics of interest to sales executives and this year is no exception. A strong program has been arranged for each meeting and many lively discussions are anticipated. Following are the programs:*

## EASTERN REGIONAL NATURAL GAS SALES CONFERENCE

ROOSEVELT HOTEL, Piftsburgh, Pa.

### THURSDAY, FEBRUARY 3

*Morning*

Opening Remarks—the Chairman, F. S. Dewey, Cincinnati Gas & Electric Co., Cincinnati, Ohio.

*Keynote Address*—Promotion of Sales as a Management Policy, J. French Robinson, Peoples Natural Gas Co., Pittsburgh, Pa.

10 Per Cent New Central Heating in Ten Months—Wm. B. Kopfer, Republic Light, Heat & Power Co., Inc., Batavia, N. Y.

Selling Gas Heating to New Homes—W. D. Smith, Bryant-Smith, Inc., Cleveland, Ohio.

*Afternoon*

Promotion of Unit Heater Sales for Commercial and Industrial Installations—George Duane, Dayton Power & Light Co., Dayton, Ohio.

Service Policies for Gas Heating and Other Appliances—L. S. Maehling, Equitable Gas Co., Pittsburgh, Pa.

Load Possibilities with Circulators—Chas. F. Spicer, The Moore Corp., Joliet, Ill.

* Home service programs which are a part of each conference are discussed in a separate article in this issue.

### FRIDAY, FEBRUARY 4

*Morning*

The Certified Performance Range—Allan Tappan, The Tappan Stove Co., Mansfield, Ohio.

1938 Refrigeration Program—W. L. Hutcheson, Manufacturers Light & Heat Co., Pittsburgh, Pa.

1938 Water Heater Prize Parade—R. E. Williams, Chairman, A. G. A. Water Heating Committee, Binghamton Gas Works, Binghamton, N. Y.

*Afternoon*

The 1938 Advertising Program—H. M. Brundage, Jr., Washington Gas Light Co., Washington, D. C.

Visual Presentation—McCann Erickson Co., New York, N. Y.

From Here On—E. M. Tharp, The Ohio Fuel Gas Co., Columbus, Ohio.

## MID-WEST REGIONAL GAS SALES CONFERENCE

PALMER HOUSE, Chicago, Ill.

### THURSDAY, FEBRUARY 10

*Morning*

Chairman's Address—B. T. Franck, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Keynote Address—Walter C. Beckjord, Columbia Gas & Electric Corp., New York, N. Y.

The National Advertising Program for 1938—R. B. Brown, Milwaukee Gas Light Co., Milwaukee, Wis.

Visual Presentation and discussion by representative of McCann-Erickson, New York, N. Y.

*Afternoon*

The Certified Performance Range—Hall M. Henry, The Utility Management Corp., New York, N. Y.

Color Movies on the Grand Rapids Range "Round-Up"—Wallace M. Chamberlain, Grand Rapids Gas Light Co., Grand Rapids, Mich.

New Factors in Gas and Electric Range Competition—Frederick A. Kaiser, Detroit-Michigan Stove Co., Detroit, Mich.

Home Service Helps Refrigerator Sales—A Skit.

### FRIDAY, FEBRUARY 11

*Morning*

Tested Selling Phrases—Elmer Wheeler, Elmer Wheeler Co., New York, N. Y.

Modern Gas Displays—Harry Swenson, The Peoples Gas Light & Coke Co., Chicago, Ill.

Gas Merchandising in New Homes—H. G. Schaul, Westchester Lighting Co., Mt. Vernon, N. Y.

*Afternoon*

1938 Water Heater Prize Parade—C. V. Sorenson, Public Service Co. of Indiana, Indianapolis, Ind.

Foil the Furmites—*A Water Heater Skit.*

Air Conditioning—Keith T. Davis, L. J. Mueller Furnace Co., Milwaukee, Wis.

House Heating Skit.

### SATURDAY, FEBRUARY 12

HOME SERVICE PROGRAM

## SOUTHERN-SOUTHWESTERN REGIONAL GAS SALES CONFERENCE

ADOLPHUS HOTEL, Dallas, Texas

### WEDNESDAY, FEBRUARY 16

*Morning*

10:00 A.M.

President's Address—Chester L. May, President, Southern Gas Association, Community Natural Gas Co., Dallas, Texas.

Address by: N. C. McGowen, President, American Gas Association, United Gas Public Service Co., Houston, Texas.

The A. G. A. National Advertising Program—Speakers: J. V. Strange, Houston, and Hugh Mitchell, New York.

Gas Engines for Power Generation—Ralph S. Wenner, Ohio Fuel Gas Co., Toledo, Ohio.

*Afternoon*

It Can't Happen Here—Speaker to be announced.

The Program for the Certified Performance Gas Range—F. M. Rosenkrans, Gas Service Co., Kansas City, Mo.

*Southern House Heating Sales Possibilities*

Heating and Health—W. G. Wiegel, Lone Star Gas Co., Dallas, Texas.

Controlled Heating—A. B. Banowsky, United Gas Corp., Houston, Texas.

Floor Furnaces—J. H. Warden, Oklahoma Natural Gas Co., Tulsa, Okla.

THURSDAY, FEBRUARY 17

*Morning*

Home Planning—J. F. Quinlan, A. G. A. Headquarters, New York, N. Y.

HOME SERVICE PROGRAM

*Afternoon*

Dramatizing the Gas Water Heating Story—W. E. Leverette, Nashville Gas & Heating Co., Nashville, Tenn.

How Gas Costs Promote Appliance Sales—C. H. Zachry, Southern Union Gas Co., Dallas, Texas.

Sales Training for All Employees—Speaker to be announced.

FRIDAY, FEBRUARY 18

*Morning*

Trends—L. B. Denning, Lone Star Gas Co., Dallas, Texas.

Report of Special Southern Gas Association Committee.

*Afternoon*

Recent Trends in Appliance Financing—Speaker to be announced.

Making the Unprofitable Customer Profitable and Connecting the Non-User—A. M. Spencer, Georgia Power Co., Columbus, Ga.

Rural Gasification Activities—J. Woodward Martin, Lone Star Gas Co., Dallas, Texas.

Showmanship in Gas Sales Promotion—W. C. Grant, Lone Star Gas Co., Dallas, Texas.

# Refrigeration Committee Adopts Plans for 1938 Campaign

*Group of committee members discussing the refrigeration campaign. Left to right, sitting: A. C. Frey, F. E. Sellman, H. R. Sterrett, chairman, W. L. Hutcheson. Standing: B. O. Brown, R. O. Berry, A. W. Humm, A. Jansen, Jr., Guy T. Henry, J. A. Sackett*

PLANS for a nation-wide gas refrigeration selling campaign larger in scope than any ever before sponsored by the American Gas Association Refrigeration Committee were adopted at the first meeting of the 1938 committee held Jan. 21 in New York City.

The forthcoming campaign to be conducted during the Spring and Summer season will be conducted by the committee in collaboration with the Association of Gas Appliance and Equipment Manufacturers and Servel, Inc., manufacturers of gas-operated Servel Electrolux refrigerators. This will be the sixth campaign of its kind to be sponsored by the Refrigeration Committee.

The 1938 Refrigeration Committee has a considerably larger membership than in other years and is more widely representative of the several hundred gas utilities that will join in the selling campaign, both from the standpoint of their geographical locations and the type of participating utilities.

The new chairman of the committee, H. R. Sterrett, president of the New Haven Gas Light Company, presided at the meeting. Mr. Sterrett, the first president of a gas utility to head the Refrigeration Committee, expressed his satisfaction at having been chosen for the job of leading the committee in gaining its 1938 objective and congratulated the group for its sincere interest in the work before it. He paid tribute to those members of the committee of former years whose support in the past had accomplished so much in steadily increasing public acceptance of gas refrigeration.

The campaign plans were prepared by the Association of Gas Appliance and Equipment Manufacturers under the direction of F. E. Sellman, vice-president of Servel, Inc., and treasurer of the A.G.A.E.M.

Adolph Jansen, Jr., assistant promotion manager of Servel, Inc., presented the general outline of the campaign plans at the meeting, details of which will be announced shortly.

Others present beside Mr. Sterrett, Mr. Sellman and Mr. Jansen were: A. C. Frey, manager, Worcester (Mass.) Gas Light Co.; H. M. Henry, assistant to vice-president, Utility Management Corporation, New York; W. L. Hutcheson, merchandise sales manager, Manufacturers Light and Heat Co., Pittsburgh, Pa.; R. O. Berry, sales manager, Jacksonville (Fla.) Gas Co.; G. T. Henry, division manager, Roanoke (Va.) Gas Light Co.; R. A. Lawder, assistant manager, Appliance Promotion Bureau, Consolidated Edison Co. of New York; J. A. Sackett, sales manager, Kings County Lighting Co., Brooklyn, N. Y.; B. O. Brown, eastern regional sales manager, Servel, Inc.; A. W. Humm, assistant to Mr. Jansen, and William A. Rorison, editor of Servel Electrolux Utility News. Members of the committee who were not present at the meeting are: Norbert O. Pratt, domestic sales manager, Seattle Gas Co., Seattle, Wash.; W. A. Hudson, general sales manager, United Gas Corporation, operating division, Houston, Texas; E. G. Peabody, general sales manager, Central Indiana Gas Co., Indianapolis, and F. C. Neuls, The Brooklyn Union Gas Co.

## Wins Car in Water Heater Contest

SANTA CLAUS came to Washington Plumber Anthony P. Bovello—in a big way! "Smiling Tony" had real reason to smile when H. M. Brundage, Jr., Washington Gas Light Company's general sales manager, presented him with a shiny new sedan as first prize in the A. G. A.—A.G.E.M. "Golden Faucet" Automatic Gas Water Heater Sales Contest. Mr. Bovello led 278 Washington plumbers with nearly 600 installations during the contest period.

Washington Gas Light Company, whose cooperating plumbers won six out of the first seven prizes in Group II of the "Golden Faucet" Contest, according to General Sales Manager Brundage, feels that its extensive efforts to stimulate plumbers' gas appliance sales were highly justified by this fine showing. A total of 4492 installations were made in Washington during the contest period by the cooperative-minded, sales-stimulated group of plumbers.

For the past several years, Washington Gas Light Company has been consolidating guns on its plumber-merchandising front. All manner of advertising and display helps has been rendered as well as an attractive commission set-up to stimulate cooperative gas appliance selling by the plumbers. The fact that Washington has won first place in the contest for the last two years is indicative that this long range build-up is bearing fruit.

# Regional Groups Discuss A.G.A. Home Planning Program

*Men who outlined the Home Planning Program at the Cleveland meeting. Left to right: R. M. Conner, director, A. G. A. Testing Laboratories; C. E. Gallagher, president, The East Ohio Gas Co.; J. F. Quinlan, director, A. G. A. Home Appliance Planning Bureau; Howard Myers, editor,* The Architectural Forum

MARSHALLING the forces of the gas industry for a national program to promote the sale of gas and gas appliances through the medium of model all-gas homes, a series of meetings were held during January in Cleveland, Chicago and Detroit. The purpose of the meetings was to explain the details of the program now being inaugurated by the Association's Home Appliance Planning Bureau under the direction of J. F. Quinlan.

Approximately 300 representatives of manufacturers, gas companies and others attended the meetings. Invitations had been sent to manufacturers in the three areas by C. E. Gallagher, president, The East Ohio Gas Company, Cleveland; F. X. Mettenet, vice-president, The Peoples Gas Light and Coke Company, Chicago; and William Woolfolk, president, Detroit City Gas Company, Detroit. Newell E. Loomis, sales manager of the Detroit City Gas Company, presided at the Detroit meeting. Mr. Gallagher presided in Cleveland and Mr. Mettenet in Chicago.

The vital importance of receiving the cooperation and support of the manufacturers, the gas companies and allied interests was stressed by Mr. Quinlan in addressing each meeting. He pointed out the vast new-home market for all kinds of appliances and urged those present to get behind the program wholeheartedly to see that the gas industry received its just share of the business.

Howard Myers, editor and publisher of *The Architectural Forum*, which is cooperating in the program, outlined the part his magazine will play in it.

All in attendance at the meetings expressed their enthusiasm for the program which has three divisions—an architectural competition, a builders' competition, and participation in the gas exhibit at the New York World's Fair in 1939. The theme of the program will be "Use Gas for All Four—Cooking, Refrigeration, Water Heating, House Heating." This theme is now being incorporated in all of the Association's national advertising.

### *Architectural Contest*

The first phase of the program is the architectural contest for which the Association has appropriated $13,700 for cash prizes. The March issue of *The Architectural Forum* will announce the contest and will include a special all-gas section of specifications, together with rules, regulations and details of the problem for the architectural competition. That issue of the *Forum* will be mailed to architects, designers and builders throughout the United States. An additional 10,000 copies of the all-gas section will be bound in special covers to take care of any additional demand.

A further step in the program will be a contest open to builders and their architects who, prior to July 1, 1939, build and equip one or more houses conforming to the minimum specifications derived as a result of the architectural contest. The sum of $10,000 has been appropriated by the Association for this contest. These homes must, of course, be all-gas and remain open for a period of 30 days for public inspection. They will be widely publicized and it is expected that millions of people will view them.

As an additional feature it is proposed that a number of the prize-winning houses in the builders' contest be reproduced full size at the 1939 New York World's Fair. This will again stress the theme, "Use Gas for All Four—Cooking, Refrigeration, Water Heating, House Heating," to the millions who attend the Fair.

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# Gas Appliance Sales Jump in Portland

By DONALD M. JOHNSTON
Portland Gas & Coke Co., Portland, Oregon

A TWENTY-THREE per cent increase in gas appliance sales for 1937 in Portland Gas & Coke Company territory was reported by John J. Winn, Jr., commercial manager, in closing the annual 4-day sales conference at which he presented "The New Momentum" business development program with a goal of 15,000 appliances, representing a sales value of $1,000,000 for 1938.

The program calls for the sale of 6000 gas ranges, valued at $540,000; 5000 water heaters, valued at $175,000; and 1000 major house heating appliances, valued at $230,000. Other heating appliances, gas-fired refrigerators, hot plates and miscellaneous equipment are expected to round out the remainder of the $1,000,000.

In reviewing the 1937 increase Mr. Winn pointed to a gain of 134 per cent in the sale of automatic storage water heaters alone or 48 per cent for water heating equipment as a whole. Major house heating equipment sales were up 51 per cent, showing a break-down as follows: conversion burners 86 per cent, gas-designed furnaces 40 per cent and floor furnaces 36 per cent.

A consistent local advertising campaign, stressing the convenience, economy and dependability of gas service, is scheduled to support the big 1938 drive.

The 4-day sales conference, arranged by R. B. Elliott, sales promotion manager, was held in the Public Service building, at the plant and in the shop, with subjects ranging from gas making to rate making. More than 100 Portland and district salesmen, supervisors, home economists and office workers were in attendance.

Included on the program were sessions on house heating, conducted by C. M. MacGregor, sales engineer; water heating, by C. W. Steele, residential sales manager; rates, by Sidney Caldwell, rate engineer; and industrial activities, by A. O. Leech, manager of industrial sales. Sessions also were devoted to such subjects as sales coverage, practical cooking demonstrations, refrigeration, etc., with the conference meeting jointly for some of the events and in groups for others.

Visits to the huge gas and by-products manufacturing plant and the utilization bureau served to impress upon the commercial department the full extent of gas company activities.

# Water Heater "Prize Parade" Gains in Popularity

WITH gas company registration figures steadily mounting, officials of the 1938 Automatic Gas Water Heater "Prize Parade" are looking forward this month to a final enrollment considerably in excess of last year's record mark. Since the announcement of the campaign, early in January, 180 gas companies have filed registrations enrolling 1,500 salesmen and new registrations are being received daily.

The first automatic gas water heater sales drive sponsored by the Water Heating Committee of the American Gas Association and the Gas Water Heater Division of the Association of Gas Appliance and Equipment Manufacturers, back in 1936, was supported by gas companies representing 54.6% of the country's gas meters. The Golden Faucet Contest last year, under the same sponsorship, enlarged the coverage of gas company registrants to include 70% of the total gas meters. Every indication points to an even greater representation in the 1938 Prize Parade.

"We attribute much of the popularity of this year's program to its unique prize plan," states R. E. Williams of the Binghamton (N. Y.) Gas Works, Chairman of the A. G. A. Water Heating Committee. "Smaller companies, who felt that previous campaigns offered little opportunity, have been especially enthusiastic about the feature wherein 'everybody wins a prize.'"

*Dealer Participation*

In addition to the heavy enrollment of gas companies, upwards of 15,000 selected plumbers and retail water heater dealers are expected to participate in the Prize Parade, according to H. N. Ramsey of the Welsbach Company, co-chairman with Mr. Williams of the National Automatic Gas Heater Sales Committee which is directing the campaign. "Although, of course, we cannot expect registration forms from retailers," Mr. Ramsey said, "we are confident that they will be eager to join in the Prize Parade. With no competition and no geographical classifications, the success of every retailer depends entirely on his own efforts."

Keynoting the phrase, "Everybody Wins!", the Prize Parade provides for distribution of awards on a specific point basis. Every sale of an automatic gas water heater produced by a sponsor manufacturer counts toward one of the prizes.

A choice of more than 300 valuable merchandise articles is offered to every participant, gas company salesman and retailer alike. In a wide variety that includes many famous brands, the prizes range from home furnishing and appliances, through clothing and sporting goods, to jewelry, toys, and many other items.

Introduced to the Prize Parade by a prospectus mailed early in January, sales managers who register for the program receive a 10-page sales portfolio and a set of large wall charts. The portfolio contains detailed information on various sales helps, together with instructions for their most effective use. It also presents winning sales ideas furnished by last year's leading companies. The wall charts, an innovation in this year's program, provide an easy means of recording daily and monthly sales, and of stimulating wholesome rivalry among the salesmen of each company.

In addition to these two sales helps for gas company executives, regular mailings will be dispatched to gas company salesmen and to retailers, showing them how to make their efforts more effective during the Prize Parade, and stimulating them to keener activity.

As a new feature this year, wives of gas company salesmen will receive a booklet and a pictorial letter—both showing the wives how they can devote leisure hours to helping their husbands win more prizes.

With an increase of ten over the number of sponsors for last year, the national automatic gas water heater sales program for 1938 is backed by firms, representing more than 95% of the water heater manufacturers.

Even though one full month of the Prize Parade has passed, gas companies which have not yet registered are urged to enter the program as soon as possible. From the day of registration, all sales of automatic gas water heaters produced by sponsor manufacturers will count toward the array of more than 300 merchandise awards. To register, write direct to the Water Heating Committee, American Gas Association, 420 Lexington Avenue, New York, N. Y.

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## National Advertising Topic at Regional Meetings

REGIONAL sales conferences and conventions of the Southern Gas Association and New England Gas Association, all to be held during the month of February, include in their programs provision for an hour's session devoted to the gas industry's national advertising program.

Hugh Mitchell of McCann-Erickson, Inc., New York, will be the principal speaker. His topic will be, "Focusing National Advertising on Local Markets."

H. M. Brundage, Jr., will preside at the advertising session of the Eastern Regional Natural Gas Sales Conference.

R. M. Brown will be the chairman of the session devoted to national advertising at the Mid-West Regional Gas Sales Conference. In addition to Mr. Mitchell, T. J. Strickler, chairman of the Committee to Conduct National Advertising, will speak at this meeting.

J. V. Strange will serve as chairman of the one-hour meeting on national advertising at the Southern Gas Association Convention.

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## California Co. Marks Successful Year

*F. S. Wade*

ONE hundred and twenty officers, directors and employees of the Southern Counties Gas Company attended the twenty-seventh annual sales dinner of the corporation, January 20, at the company headquarters in Los Angeles.

The meeting was in celebration of a successful year's activity in the sale and promotion of modern, automatic gas burning devices throughout the territory served by this company. The territory includes Santa Barbara, Ventura county, the Santa Monica Bay district, the San Pedro and Harbor district, Monrovia, Pomona, Whittier and all of Orange County south to San Clemente, approximately 170,000 domestic meters.

Representatives from the various cities and communities served by the company were in attendance. Among the speakers was F. S. Wade, president of the company, who stated:

"Indicative of the growth of the territory served by the company is the increase of 6,834 domestic and commercial meters during 1937. To take care of these new customers and to provide the best of service to the consuming public, the company during 1937 expended $1,700,000 for betterments, extensions and improvements to its system. Promotion and sale of new gas appliances by dealers and the company during 1937 resulted in a large volume of new equipment going into service, and this aggressive sales policy will be continued during 1938."

Other speakers were Norman R. McKee, vice-president in charge of sales; LeRoy Edwards, general counsel for the corporation, and J. A. Somers, refrigerator specialist. Clyde H. Potter, commercial manager for the company, acted as general chairman and toastmaster.

# Home Service To Take Part in Five Regional Conferences

THE month of February will be an important one on the Home Service calendar. During that month five separate programs have been arranged for the regional gas sales conferences which will take place in various parts of the country. A brief outline of each program is shown below.

*Eastern Natural Gas Conference*

A Home Service Breakfast has been arranged for Friday, February 4, in the Hotel Roosevelt at Pittsburgh by Anne Sutter of the Equitable Gas Company. The following group of ten-minute talks comprise the program: "Home Service Looks Ahead," Mildred Clark, chairman, the A. G. A. Home Service Committee; "Home Service Experience in Employee Classes," Grace Preston, United Natural Gas Co., Oil City, Pa.; "Outside Contacts," Mary Evans, Scranton-Spring Brook Water Service Co., Scranton, Pa.; "Subtle Selling in the Home Call," Mary Belle Burnett, The Cincinnati Gas & Electric Company; a skit, "The Knock that Serves and Sells," Home Service Department of the Equitable Gas Company.

*Mid-West Conference*

Mattie Rouse of the Consumers Power Company at Flint, Michigan, is chairman of the home service program to be held Saturday morning, February 12, at the Palmer House in Chicago. This follows a sales conference program of two days.

B. T. Franck, chairman of the conference and sales manager of the Grand Rapids Gas Light Co., will open the program. "Home Service Looks Ahead" will be the subject of a talk by Mildred Clark. A skit illustrating drama in cooking schools, "Mrs. Modern and Mrs. Antique," will be presented by two members of the Home Service Department of the Consumers Power Company. The stage setting will be that of the portable kitchen used by the company.

"The Psychology of Selling as Applied to a Home Call" will be discussed by Fred Kaiser of the Detroit-Michigan Stove Company. A skit, "Home Service on the Sales Floor," will be presented by The Peoples Gas Light & Coke Co., Chicago. Irving J. Lee, instructor of Speech of Northwestern University, will talk on "The Persuasive Speech."

At a luncheon meeting directly after the morning program, F. X. Mettenet, vice-president, The Peoples Gas Light & Coke Company, will discuss "The Sales Manager and Home Service." This will be followed by two-minute talks by home service directors: "How Home Service May Aid in Creating Sales," Lucille Hall, Grand Rapids Gas Light Company; "Individual Cookery Classes," Marian Schleicher, Citizens Gas & Coke Utility, Indianapolis; "Home Service Work in the Typical American Town," Claribel McLeod, Central Indiana Gas Company, Muncie.

*Southern-Southwestern Conference*

A morning program and luncheon is the home service program to be given on Thursday morning of the Convention, February 17. Margaret Marable, until recently with the Lone Star Gas Company of Dallas, and now with Servel Inc., of New York, will preside, continuing her appointment as chairman of the Southern home service group. Here again the sales-slanted aspect of home service is the keynote of the program.

Mildred Clark, chairman, A. G. A. Home Service Committee, will discuss "Home Service Committee Plans"; "Sales Floor Demonstrations and Window Display Tie-ups" will be discussed by Margaret Thompson of the Arkansas Louisiana Gas Co., Little Rock. A sales-slanted demonstration will be presented in a kitchen arrangement setup by the International Nickel Company by Albertine Berry of the Lone Star Gas Company, Dallas; a skit "Subtle Selling in a Home Call" will be presented by the Home Service Department of the Oklahoma Natural Gas Company; Nell Read of the San Antonio Public Service Co. will give a demonstration describing a Talking Cabinet as an illustration of drama in home service.

At the luncheon meeting following, short talks on home service activities will include: "Small Group Demonstrations," Mrs. Carroll Miller, United Gas Corp., Houston, Texas; "Classes to Promote Interest in Different Income Groups," "Classes for Maids," and "Classes in Higher Income Groups," Helen Hatchee of the Memphis Power & Light Company; "New Gas Customers in the Rural Market," Lucie Lee Carley, Lone Star Gas Company, Ft. Worth, Texas; "Creating Sales Enthusiasm through Employee Demonstrations," Mary Alice Crosson, West Texas Gas Company, Lubbock; "Amusing Interludes in Electrolux Promotion," Jane Tiffany Wagner, Servel, Inc., New York.

*New England Convention*

Mrs. Eleanor Kingsley of the Worcester Gas Light Company, Framingham, Mass., presides at a home service luncheon on Friday, February 25. The program will include greetings by G. S. Hawley, The Bridgeport Gas Light Company; "Kitchen Planning and Home Service," Lyda Flanders, Worcester Gas Light Company; "Sales Aids from Manufacturers," Kathleen Atkinson, Providence Gas Company; "Sales-Slanted Demonstrations," Mrs. Arra Sutton Mixter, The Hartford Gas Company; and "New Methods of Showmanship," Dorothy Lowney, Taunton Gas Light Company. On the general convention program, "How to Get the Most Out of Your Home Service Dollar" is the subject given to Jessie McQueen, American Gas Association.

*N. J. Home Service Conference*

The home service directors in New Jersey are meeting in Asbury Park on Monday, February 14, for an all day conference on home service work. Mrs. Eliza Stephenson of the Jersey Central Power & Light Co., presides as chairman. B. A. Seiple, vice-president, Jersey Central Power & Light Co., in welcoming the group will discuss "Home Service Opportunities." Mrs. John Hulsart, a homemaker, has the subject "What Home Service Means to Me." Jane Tiffany Wagner, Servel Inc., will open a discussion on "Procedures in Home Service Work" in promoting activities on specific appliances; a skit will follow the discussion.

Other speakers include: Alfred Howard of Servel Inc., discussing "What Refrigeration Means to the American Homemaker"; "Home Service and Sales," Preston Gardner, Public Service Electric & Gas Company; "Handsome Is as Handsome Does," Mary Davis Gillies of *McCall's Magazine;* "The Fundamentals Analyzing the Dramatization of Cookery," Paul Dorsey, Cribben & Sexton Company; "Publicity in Home Service," Marjorie Deen, Dell Publishing Co., New York; "Sidelights on Home Service," Jessie McQueen, American Gas Association.

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## Appliance Sales Hit All-Time High

MORE than $3,600,000 worth of appliances were sold by The Brooklyn Union Gas Company and cooperating dealers during 1937. The year was easily the best in the company's history from the standpoint of appliance sales, all previous records being shattered. The new record, which stands at $3,656,489.40, is higher by nearly $600,000 than the former high, which was established in 1936. In terms of percentage, the gain amounted to 19 per cent.

December's sales accounted for $181,735.69 of the total. The final month of the year was the sixteenth in an unbroken row to see sales at a record high level for the month in question. The gain during December amounted to only 1 per cent, but previous months had registered increases as high as 48 per cent.

## *Industrial Gas Section*

Hale A. Clark, Chairman  Eugene D. Milener, Secretary  Frank H. Trembly, Jr., Vice-Chairman

# 1938 A.G.A. Leaders in the Industrial Gas Field

*H. A. Clark*
*Ch., Ind. Gas Sec.*

*F. H. Trembly, Jr.*
*Vice-Ch., Ind. Gas Sec.*

*J. P. Leinroth*
*Ch., Advertising Com.*

*R. L. Manier*
*Ch., Advisory and Nominating Com.*

*W. S. Walker*
*Ch., Advisory Com. on "Combustion"*

*O. L. Maddux*
*Ch., Ceramic Industries Com.*

*L. R. Foote*
*Ch., Com'l Cooking & Baking Com.*

*P. Ziegelbauer*
*Ch., Com. on Displays at Nat. Expositions*

*R. G. Guthrie*
*Ch., Ferrous Metals Com.*

*T. W. Halloran*
*Ch., Food Industries Com.*

*E. P. Kramer*
*Ch., Gas Engine Power Com.*

*C. R. Bellamy*
*Ch., Ind. & Com'l Air-Conditioning Com.*

*R. D. Hawkins*
*Ch., Non-Ferrous Metals Com.*

*F. T. Rainey*
*Ch., Program Com.*

*H. A. Sutton*
*Ch., Publicity Com.*

*W. W. Young, Jr.*
*Ch., Sales Training Com.*

*L. E. Biemiller*
*Ch., Vol. Water Heating Com.*

## Industrial Gas Consumption at Record High

THE amount of gas used in industry and commerce has been at an all time peak for two years and considerably above the pre-depression years. According to Hale A. Clark, chairman of the Industrial Gas Section, Association figures show that for the year 1937, the gas utilities sold 1,090,310,000,000 cu.ft. of industrial and commercial gas. These figures, which include both manufactured and natural gas, disclose a gain of 10 per cent over the preceding 12 month period or double the rate of increase in industrial production and commercial activity as reported by the Federal Reserve Bank.

While this reflects, in part, a high rate of industrial production throughout the country, a great portion of this gain is due to other causes. Economical and flexible gas is replacing other fuels to a large extent. This is due, in part, to the material savings effected by the use of gas because of its several inherent advantages.

One outstanding feature is that gas has made bigger strides than industry for a number of years. The philosophy by which industry has made such rapid progress in recent years, is to give constantly better value at lower prices. The record shows that the gas industry, in its service to all industry and commerce has more than kept pace with this philosophy of progress. Industrial and commercial gas customers, back in 1929, amounted to 452,000 but the records show that today they total 1,017,000.

*An excellent example of tying in well-known manufactured products with the use of industrial gas. This recent window display in the main office building of the Detroit City Gas Company attractively displays a well-known brand of meat products and attributes their delicious flavor to the fact that they are smoked with gas*

# Pittsburgh Industrial Sales Meeting Has Strong Program

INDUSTRIAL gas men are looking forward to the annual A. G. A. Industrial Gas Sales Conference to be held at the William Penn Hotel, Pittsburgh, March 7 and 8. An exceptionally strong program has been arranged and many papers of vital interest to both manufactured and natural gas men will be delivered. Hale A. Clark, Detroit City Gas Co., is chairman of the Industrial Gas Section. An address of welcome will be made by a high official of an important gas company.

Among the highlights of this conference will be several symposiums dealing with technical, business, sales and other subjects of equal interest. Representatives from a number of companies, large and small, will participate in these symposiums.

Speakers for this conference as well as those participating in the symposiums have been carefully selected by the Program Committee, of which Franklin T. Rainey, The Ohio Fuel Gas Co., Columbus, Ohio, is chairman. Other members of the committee are: John H. Warden, Oklahoma Natural Gas Co., Tulsa, Okla., vice-chairman; Irving D. Ross, The Peoples Natural Gas Co., Pittsburgh, Pa.; John P. Brosius, Equitable Gas Co., Pittsburgh, Pa.; W. F. Miller, Public Service Co. of Northern Illinois, Maywood, Ill.; Joseph F. Quinn, The Brooklyn Union Gas Co., Brooklyn, N. Y.; Thomas E. Wood, The Manufacturers Light & Heat Co., Pittsburgh, Pa.; O. C. Warren, Birmingham Gas Co., Birmingham, Ala.; and Charles W. Gale, Knoxville Gas Co., Knoxville, Tenn.

Among the subjects to be covered either by papers or in symposiums are the following: soft metals, kilns, non-ferrous furnaces, food manufacturing, temperature controls, propane and butane competition, forging and glass melting. Careful attention is being given to the development of these subjects by authorities in their respective fields. A feature of the conference will be the Industrial Gas Men's Luncheon which will be addressed by a prominent speaker.

Several of the committees of the Industrial Gas Section will hold meetings on the day following the conference.

## A.G.A. Hotel and Restaurant Sales Meeting in May

ALWAYS one of the highlights of the year, the A. G. A. Hotel, Restaurant and Commercial Sales Conference for 1938 will be held in New York City at the Belmont Plaza Hotel, Monday and Tuesday, May 23 and 24. This is the annual gathering of gas utility men and appliance manufacturers interested in the promotion, sales and servicing of hotel, restaurant and lunchroom cooking, as well as other commercial gas apparatus. Representatives of gas companies serving both manufactured and natural gas will be present. This year as in previous years, attendance will be from all over the country.

Modernization of commercial kitchens, a national program that has been aided and promoted by the gas utilities in recent years, is gaining momentum. One authority estimates that close to $9,000,000 will be spent in modernizing hotel kitchens alone this year. And, of course, the chief item in kitchen modernization is new and up-to-date cooking equipment. Commercial and industrial gas sales have been at an all-time high for the past two years and indications are that the volume of this send-out will be on the increase for some time to come.

Hale A. Clark, Detroit City Gas Co., is chairman of the Industrial Gas Section under whose auspices the conference will be held. Plans for the conference are being made by the Program Committee, Franklin T. Rainey, The Ohio Fuel Gas Co., chairman, and W. Jennings Young, Oklahoma Natural Gas Co., Tulsa, Okla., vice-chair-

man. They will be assisted by a subcommittee headed by Joseph F. Quinn, The Brooklyn Union Gas Co., Brooklyn, N. Y., chairman.

There will be important papers and several symposiums on subjects of vital interest to those attending and sales will receive special consideration. Several of the committees of the Industrial Gas Section will hold meetings on the day following this conference.

## Gas Industry To Exhibit at Bakers' Meeting

ONE of the most prominent features of the National Convention and Exhibition of the Associated Bakers of America will be the interesting and instructive display of modern commercial gas equipment sponsored by the Industrial Gas Section in cooperation with The Peoples Gas Light & Coke Co., Chicago. This convention will be held at the Hotel Sherman, Chicago, February 21 to 24. It is the first time that a program of this kind has been undertaken in the interests of the retail branch of the baking industry.

Prominently displayed in the gas exhibit will be the new commercial gas refrigerating unit, gas-heated deck ovens, automatic gas water heaters, deep fat fryers, gas steam boiler applications, etc. In connection with the new commercial gas refrigerating unit, which was launched commercially last year, one gas utility has found it so successful that it plans to sell several hundred in its territory this year.

Hale A. Clark, Detroit City Gas Co., is chairman of the Industrial Gas Section. Clinton B. Cole, Rochester Gas and Electric Corp., is chairman of the Wholesale Baking Committee. The gas exhibit will be organized by the Committee on Displays at National Industrial Expositions, P. Ziegelbauer, Detroit City Gas Co., chairman. Thomas J. Gallagher, The Peoples Gas Light & Coke Co., Chicago, will be in charge of the booth and he will be assisted by other local gas men and exhibiting manufacturers' representatives.

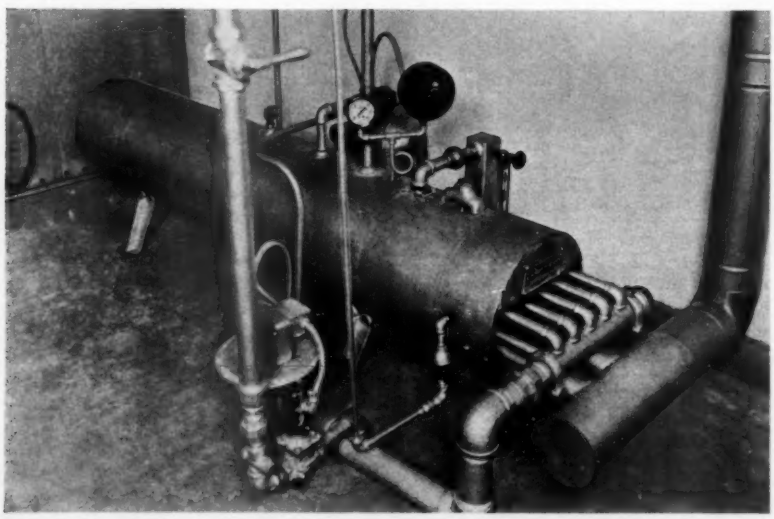
## Trembly Addresses Gas Sales Council

AT the December meeting of the Metropolitan Industrial Gas Sales Council in New York, Frank H. Trembly, Jr., assistant general sales manager, The Philadelphia Gas Works Company, and vice-chairman of the Industrial Gas Section, spoke on industrial and commercial gas sales. Mr. Trembly surveyed the manufacturing life of Philadelphia, analyzing the types of industries in the city. He then gave a detailed description of the methods used for securing industrial and commercial gas business, as well as the methods used for handling office routine and the preparation of reports.

Of particular interest was the great dependence the company places on the industrial survey as a guide to its new business activities. Among other points brought out was relationship with dealers and with manufacturers of industrial and commercial gas equipment.

The council decided to join with the Industrial Gas Section of the American Gas Association in conducting its National Hotel, Restaurant and Commercial Sales Conference in New York City, May 23-24, 1938.

The meeting was presided over by A. L. Palmer, Jr., The Brooklyn Union Gas Company, chairman of the Metropolitan Industrial Gas Sales Council.



*Believe it or not, this is a steam boiler. It is a unique low pressure immersion gas boiler installed in the foundry of Benedictine Convent, Mundelein, Ill.*

## Non-Ferrous Metals Group Meets

THE Non-Ferrous Metals Committee met in the offices of Chairman Ralph W. Hawkins in The Bridgeport Gas Light Company, Bridgeport, Conn., on December 21. The year's work was plotted and a number of details were agreed upon, among them plans for closer cooperation with the manufacturers of crucibles and with their Association.

Progress in crucible melting of nonferrous metals has made such headway that it was decided that Mr. Hawkins and Oliver W. Pritchard of Brooklyn, a member of the committee, would prepare and present a paper on the subject for the A. G. A. Industrial Gas Sales Conference in March. The paper will carry the title "Improvements in Crucible Melting with Gas" and will be illustrated.

## Lloyd Maddux Takes up New Work

LLOYD MADDUX, industrial gas engineer, United Gas & Fuel Co., Ltd., Hamilton, Ont., has resigned his position in Canada to engage in consulting engineering practice in New York City.

Mr. Maddux is chairman of the A. G. A. Industrial Gas Section's Committee on Ceramic Industries and has been an active worker in Association affairs for a number of years. One of the outstanding industrial gas engineers in Canada, he has been instrumental in placing gas equipment in many Canadian manufacturing plants, particularly in the Hamilton territory. He is a member of the Canadian Gas Association as well as the A. G. A.

## Air Conditioning Schools Enter Fifth Year

THE fifth consecutive year of air conditioning engineering schools will be underway for jobbers and dealers when The Fox Furnace Company opens its Chicago school, January 18.

The classes this year will continue for three days during which the students will be given instructions in calculating and laying out air conditioning systems. Installation problems will be stressed and ample time given to sizing of ducts, registers and grilles. Lectures and demonstrations on controls, blowers, motors and other accessories will be given by recognized experts.

A new feature of the schools this year will be instruction in cooling or summer air conditioning. This instruction will be given on the day following the three-day heating course.

In addition to the Chicago School, January 18 to 20, similar schools will be conducted at Cleveland, Feb. 1-3; Atlanta, Feb. 15-17; New York, March 1-3; St. Louis, March 15-17; Boston, March 29-31.

## *Technical Section*

J. V. Postles, Chairman H. W. Hartman, Secretary F. M. Goodwin, Vice-Chairman

# New Specialized Testing Equipment Demonstrated at Mid-West Gas School

By C. F. HOLDREGE

**Assistant Construction Engineer, Metropolitan Utilities District, Omaha, Nebraska**

THE seventeenth annual gas school and conference conducted by the engineering Extension Service of the Iowa State College and by the Mid-West Gas Association was held at Ames, Iowa, during the second week of November, 1937.

The first six or seven years' sessions of this school were devoted only to the instruction and training of meter repairmen who were sent to the school by the various member gas companies of the Mid-West Gas Association where they were trained by men highly skilled in the art of repairing gas meters, this training extending over a period of four or five working days. Following these first six or seven sessions the scope of the work carried on at the school was gradually broadened to include subjects of interest to the operating and distribution men in this area and the repairing of meters became a subject of secondary consideration.

### *Purpose of Gas School*

It is now the rather fixed purpose of the Mid-West Gas Association to confine the subjects discussed at the gas school to those of interest to the production and distribution men only and to devote the annual Spring meeting to subjects of interest to the executives and commercial men of the member companies.

At the last gas school and conference, the Metropolitan Utilities District of Omaha, Nebraska, gave a demonstration and explanation of new specialized testing equipment, which created a good deal of interest. The various equipment demonstrated and explained and the interest shown by the members present may be briefly described as follows:

Although, of necessity, equipment of particular manufacturers was used in the demonstration, there was no intent in the demonstration, nor is there in this discussion, to imply any preference for the product of any particular manufacturer. The purpose of the demonstration was rather to present the uses of and receive comments on various general types of devices now available to assist the gas plant operator and distribution man in his routine work.

The first device demonstrated was the specific gravity meter, an old stand-by of the gas plant laboratory. The instrument demonstrated has been in constant use in Omaha for ten years and is really nothing more or less than a rather delicate balance giving a continuous record of the ratio of the weight of the gas passing through it compared to the weight of an equal volume of air in the room in which the instrument is located.

The specific gravity meter is used as one of the watch dogs of the manufacturing process giving an indication of any unusual change in the proportion of the various constituents making up the completed gas. In the discussion of the device it was pointed out that this type of instrument was probably subject to some error. Manufacturers' representatives present at the meeting had more up-to-date and exact devices to demonstrate to those interested.

### *Flame Velocity Meter*

The second instrument presented for demonstration was the Hays Flame Velocity Meter. A large scale sectional drawing showing the construction of this instrument, as well as the device itself, was shown. This device is a comparatively new development that provides a convenient method of obtaining a curve of flame velocity or rate of propagation in centimeters per second as the ordinate and primary air-gas ratios as the abscissa.

Briefly, the instrument consists of a cast iron body connected to the gas and water supplies, the water acting as a means of forcing gas and air in and out of the body. The interior of the body is divided into two chambers with the dividing wall conical in shape. The chambers are filled, one with gas and the other with air, by emptying the water from the body. The body is then slowly filled with water forcing the air and gas from their respective chambers into a burner at the top of the body. The ratio of air to gas fed to the burner is then a definite function of the height of water in the body. A float on the water is connected to a cable that rotates a chart at the top of the instrument. The height of the inner cone of the flame fed by the mixture of gas and air from the body is then observed through a telescope that is free to move up and down. The operator merely makes the cross hair in the telescope lens follow the tip of the inner cone as it changes in height due to differences in the gas-air ratio. This up and down movement of the telescope is magnified by a linkage and transmitted to the chart. The curve obtained in this manner gives the maximum flame velocity and the lower limit of combustibility.

The instrument is used as a further check on the manufacturing process. Thus two of the former criterions of correct operation of the generating sets, namely, the B.t.u. content and the specific gravity, are now supplemented by a third check. It is believed that without this check it has been possible to hold a fairly constant B.t.u. content and specific gravity and still have quite a variation in the burning characteristics of the finished gas, particularly in those places where natural gas is either mixed with or used in the carbureter of a water gas plant. A check of the flame speed is now made at least daily for the purpose of keeping this characteristic as nearly constant as possible.

A representative of the Sioux City Gas Company supplemented the discussion of this instrument. They have used a flame velocity meter for a good many months. The experience at Sioux City has been that after adjustments on appliances were correctly made for the flame velocity used, the number of pilot outages and burner adjustment complaints have been very materially reduced. They have also found that a variation of only a few per cent in the flame velocity is definitely followed by an increase in this type of complaint.

### *Gas Indicator*

The next instrument demonstrated was a U.C.C. Combustible Gas Indicator. This general type of device was shown in two places on the program as this type of instrument has been used by the District for two different purposes. The U.C.C. Indicator has been used largely for manhole surveys and in checking the atmosphere in underground structures. This instrument performs the three functions necessary to determine definitely that the atmosphere in any given place is not hazardous to humans.

The instrument tests for the possible presence of an explosive mixture by drawing a sample over a heated platinum wire that forms one leg of a Wheatstone's bridge. Any combustible gas in the sample is burned raising the resistance of this leg of the bridge and giving an indication of the percentage of combustible

gas present on a suitably calibrated galvanometer across the bridge. The sample is also drawn across a piece of paper saturated in palladium chloride giving a qualitative indication of the presence of carbon monoxide. As a final check the sample is drawn through a miner's lamp. If the oxygen content of the sample is so low as to be dangerous the flame will be extinguished. This is a well known device and no particular comments were received.

Another instrument shown was a M.S.A. Carbon Monoxide Indicator. This instrument differs from the one just described in that it indicates carbon monoxide only and gives a direct reading of per cent of CO present. The instrument is a very sensitive detector with a full scale reading of 0.15 per cent of CO.

Briefly, the instrument functions as follows: A constant flow of the atmosphere to be tested is drawn through the instrument by means of a vacuum pump. This flow can be adjusted by means of a needle valve and is measured by a calibrated manometer across an orifice. The sample is next passed through a dehydrating canister and then through a cell containing activated hopcalite where the carbon monoxide is oxidized to carbon dioxide. The heat generated by this oxidation is measured by thermocouples imbedded in the cell.

Our district has used this device extensively in checking on gas leak complaints in houses as it gives an immediate indication of any danger to occupants, as well as locating cases of seepage through basement walls, etc.

### *Leak Locators*

The next group of instruments demonstrated was comprised of four devices used to assist in locating leaks in mains and services outside of the house. The first of these was the Gas Stethoscope. This instrument is pretty well described by its name as it is a mechanical stethoscope used for listening to what is happening inside a gas service or the main within the vicinity of the service to which the Stethoscope is attached.

The Stethoscope is ordinarily attached to the service at the incoming side of a house meter, which, of course, means that the meter must be temporarily disconnected. Gas leaking from a pipe through any crack or break sets up vibrations in the gas column within the pipe. These vibrations are within the audible range and consequently may be heard by means of the Stethoscope at the end of a service. By listening in at several services in the vicinity of a leak the approximate location of the leak may be determined by a comparison of the intensity of the leak vibrations. The exact location must then be determined by other means.

This instrument was discussed by several of the members of the Association, all of whom agreed that the degree of success obtainable with the instrument depended largely upon the ability and training of the men using it. The Des Moines gas plant has equipped all of its men, who are ordinarily installing and replacing gas meters, with a Stethoscope and has given instructions that whenever a meter is removed the Stethoscope shall be used. Leaks reported in this way are then turned over to a special crew equipped to make a more definite investigation. This plan has been in operation for several months and although definite figures were not available it was indicated that many leaks had been found.

### *Soundograph*

The next device demonstrated was the Soundograph. This instrument is used in precisely the same manner as the Stethoscope described above. A microphone in the instrument picks up the leak vibrations which are then amplified by several stages of audio amplification. The amplified sound may then either be listened to by means of earphones or the intensity of the vibrations can be measured by a meter mounted on the instrument. The amount of amplification used can be controlled, thus giving a means of measuring the intensity of the vibrations rather than depending upon the ear alone to judge the intensity of the sound.

This instrument is subject to a good deal of interference from other noises which can, for the most part, be distinguished from a leak sound by an experienced operator. The instrument is considerably more expensive and is less convenient to carry than the Stethoscope, but is probably capable of more exact determinations. In a trial leak survey with the instrument of approximately one thousand services the Metropolitan Utilities District located several small leaks.

The third device in the group of leak-detecting instruments demonstrated was the J-W Leak Detector. This device is a combustible gas indicator and operates on the same principle as the one previously described. The instrument is equipped with a short copper probe, an air dilution valve and a filter in the sample line which makes it particularly adaptable for use in obtaining readings in bar holes drilled at intervals over a suspected main leak. In making a test over a series of bar holes, the holes and sample line are first purged of accumulated gas by means of an aspirator connected ahead of the instrument. A sample from the bottom of the bar hole is then drawn through the instrument giving a reading of the per cent of combustible gas present in the comparatively fresh bar hole atmosphere. The hole giving the highest reading is then nearest the leak. The regular leak crew of the Metropolitan Utilities District is equipped with one of these instruments and has found it to be a reliable guide.

The last of the leak detecting devices demonstrated was the Schuldt Gas Leak Locator. This instrument while comparatively new has received wide attention. To use the instrument it is necessary to excavate to the main and make a tap. It is described in detail in an illustrated article by its inventor, E. F. Schuldt, in the October, 1937, issue of the A. G. A. MONTHLY. Mr. Schuldt was awarded the Beal Medal at the last A. G. A. convention for his paper describing this apparatus.

In the discussion several questions were asked concerning the possibility of leakage around the rubber bags which are a part of the apparatus. The limited experience of our district, as well as reports from other places where the instrument has been more extensively used, indicates that this rarely happens and will be shown by the action of the water column when it does occur.

A wireless pipe locater known as the Fisher "M" Scope was also shown. The "M" Scope consists of a small portable transmitter with a built-in loop antenna which transmits on a constant frequency of approximately 175 kilocycles modulated with an audio frequency of 1000 cycles and a portable receiver, likewise with a built-in loop antenna, tuned to transmitter frequency.

The instrument may be used with the receiver and transmitter coupled together or carried separately. In the second method of operation the two parts of the set are carried vertically and about 30 feet apart, both instruments being kept approximately in the same vertical plane. If the two instruments then cross a pipe line or other continuous conductor between them a rather sharp and definite increase in received signal is obtained.

In the first method of operation any piece of buried metal will distort the lower transmitter field and be indicated by the receiver. The particular advantage of the instrument is that it requires no physical connection to the underground structure to be located and in ordinary instances is quite fast and accurate. Ingenious methods have been worked out to overcome various types of interference but the success of the instrument will again depend largely on the training and skill of the operator.

### *Telemeter*

The next instrument demonstrated was a telemeter. This type of device is used to transmit pressure, flow, or almost any other measurable quantity over long distances. There are several different types of such devices on the market. The particular instrument shown operates on the time-impulse principle and has the very distinct advantage of requiring only two conductors that carry only a few milliamperes of direct current between the transmitter and receiver. This allows the use of an ordinary telephone circuit and affords a very convenient means of installing the instrument.

Our district has had one of these instruments in use for approximately three years to give an indication of the pres-

sure maintained at the end of the high pressure distribution system back into the pusher room at the gas plant. The instrument has performed very satisfactorily with only a few instances of minor trouble.

Also demonstrated were a tar camera and psychrometer tube. The tar camera shown is a home-made device consisting of a convenient means of inserting a filter paper in a ¾ inch gas line. Our district maintains eleven tar camera stations installed at various points over the distribution system. Once a month filter papers are inserted in these cameras and approximately 1000 cubic feet of gas allowed to pass through the papers. The exact amount of gas passed is then recorded and the papers returned to the laboratory for analysis. The amount of oil, gum and dust per thousand feet is obtained from this analysis. This monthly analysis gives a check on the dust and gum in the gas and the effectiveness of fogging in the various parts of the system.

Two samples of filter papers obtained in this manner were shown; one was taken at a time when the Cottrell precipitator at the gas plant had been out of service for a short time, with the result that the paper was badly coated with carbon dust from the coke breeze used in the generating sets; the other sample was taken under normal conditions and appeared perfectly white to the eye.

*Psychrometric Tube*

The psychrometric tube is likewise a home-made device used to obtain the relative humidity of the gas at the various tar camera stations at the time filter papers are inserted. The device is merely a short tube with thermometer wells allowing wet and dry bulb thermometers to be placed in the gas stream. Gas is allowed to pass through the tube and discharged out of the house by means of a garden hose until the two temperatures become constant. The only precaution necessary is that the flow of gas be unrestricted so that sufficient velocity is obtained to give reliable readings.

The next device demonstrated is still more or less experimental. It is hoped to use the instrument to obtain a convenient method of checking gas velocities and consequently rates of flow from the various governor stations in the system. The instrument is known as a Velometer and is being used quite extensively in air conditioning work to check duct and grille velocities. The instrument is equipped with several different types of pressure jets which when inserted in an air stream will give a direct reading of air velocity in feet per minute. One of the jets included is a pitot tube for insertion in ducts. The proposed method of using this instrument is to insert this pitot tube into the gas main through a corporation cock designed to fit the pitot tube and in this manner obtain a pitot traverse of the gas main directly from the instrument with only a necessary correction for specific gravity.

Before relying on the results obtained in this manner it is planned to check the instrument against an orifice plate. The lower limit of the instrument is approximately 300 feet per minute of air or 365 feet per minute of gas which will probably limit its usefulness.

The last of the appliances demonstrated is useful to the gas industry in that it affords a means of easily obtaining a measure of low air velocities in a room when it becomes necessary to check air distribution in installing a forced air heating system. The instrument is known as a Kata thermometer and consists of a rather high grade alcohol thermometer with an unusually large bulb at the bottom.

The thermometer is suspended in the space to be tested and the bulb warmed by means of hot water so that the alcohol fills the stem of the instrument. As the thermometer cools the time required for the alcohol in the stem to drop from 100 to 95 degrees Fahrenheit, a distance of about 2½ inches on the stem, is obtained by a stop watch. The dry bulb temperature of the air is obtained at the same time. An empirical formula furnished with the instrument will, with these two obtained data, give the air movement past the instrument directly in feet per minute. The published range of the instrument is from 660 to 20 feet per minute with a maximum error of 8% at the lower limit.

At the conclusion of these demonstrations the apparatus was left on the table for general inspection and time allowed for discussion of the instruments among the members of the Association.

# Electric Workers Learn Gas Jobs

Courtesy Consolidated Edison Co. of N. Y.

*Gas distribution class in session at West Farms Yard with instructor Joseph Rowland at extreme right. Left to right in foreground are Thomas O'Connell, preparing to "cut out" a main, John Nudorf, caulking a service sleeve. Rear: Alberto Dispirito and Carmine Rosato (in gas mask) connecting a new service while Michael Tobin, who assists the instructor, looks on*

AMONG the employees of the Consolidated Edison Company of New York now being instructed at the Gas Distribution Department's school in the Bronx, are a number of men who recently were transferred from the electric departments in Queens to the Gas Distribution Department. They are being taught practices of installing gas pipes and fittings.

Employees selected to attend the school are usually men new to gas distribution work, as in this case, and those who are taking additional instruction in order to keep up to date with new tools and the latest methods of work. These men receive two weeks' comprehensive instruction in work encountered in the normal operations on the district.

The classes are usually composed of eight men. The newly instructed employee starts to do district jobs in company with an experienced gas man.

(Continued from page 61)

ages have been charged for older entrants into the plan, and for higher paid employees. The employer usually pays the balance of the cost necessary to complete the provisions for each year's accrual of the benefits.

In several recent plans providing for retirement at age 65, employees pay approximately $2.00 to $2.40 a month for each $1.00 of future monthly pension purchased each year. If a liberal rate of interest on cash withdrawals is included in the plan a somewhat higher rate of employee payment would probably be in order. If the normal age of retirement is 60, the employee's payment should probably be about 50% greater than for retirement at 65.

The actual rate of payment by the employee should be determined in consultation with an actuarial specialist or with qualified representatives of insurance companies after deciding upon the desired benefits of the plan and obtaining an estimate of the corresponding annual costs.

(f) *Eligibility.* It is customary to specify a waiting period of one or more years' service before permitting employees to participate in retirement plans, in order to avoid administration costs for the considerable number of employees who leave after short service. The longer this waiting period is, of course, the smaller the total pension provided by the employees' payments will be. However, this seems less serious since the introduction of the Social Security plan which produces some pension for each year of employment.

Under a supplementary plan providing total pensions of approximately 2% of total pay it is probable that adequate pensions will result for any employee who participates for 25 or more years. With this in mind, several recent plans have not permitted participation of lower salaried employees until after age 35.

While participation when eligible might (in most states) be made a condition of employment for future employees, it has been found by most employers operating modern plans that a very high percentage of employees participate voluntarily when they thoroughly understand the plan. With the Social Security plan providing some pension to all, there would seem to be less necessity for insistence on participation in a supplementary plan than may have previously been the case, and it seems desirable to make participation in the plan entirely voluntary on the part of eligible employees.

### *Conclusions*

As indicated herein it is believed that a plan for supplementing the federal annuities is desirable from both a business and social viewpoint. The principal factors in determining the cost of a plan have been outlined in the hope of assisting member companies to develop plans appropriate for their particular conditions in such a manner that the annual cost to them for the normal operation of the plan will be a very reasonable percentage of their total payroll, and the cost for additional pensions for older employees may be financed without being seriously burdensome. The necessity for competent technical advice in determining the details of a plan has been pointed out, and in conclusion is again emphasized.

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## APPENDIX

## Illustrative Sample of an Employee Retirement Plan

TO EMPLOYEES:

The Company is very glad to announce the Retirement Income Plan outlined in the following pages. This plan provides benefits which will be payable in addition to any old age benefits payable by the Government.

The plan is cooperative—each eligible employee who elects to join the plan will pay a portion of the cost of a Retirement Income and the Company will pay the balance of such cost. Therefore, when you retire from our service, you will be assured of an income for the rest of your life much greater than could be purchased with your payments alone.

The administration of the plan has been placed in the hands of the Insurance Company to give you definite assurance of the safety and security of the financing of the plan and the payment of its benefits.

Meetings for further explanation of the plan and discussion of its various features are being arranged after which you are entirely at liberty to join the plan or not. But in view of the fact that the Company is paying very substantially toward the cost of this plan, you are urged to study the plan carefully after which we are confident that you will be glad to take advantage of the opportunity offered, by promptly completing the application card which you will receive.

Yours very truly,

President.

### OUTLINE OF THE RETIREMENT INCOME PLAN

#### 1. *Effective Date*

This plan will become effective on ———, provided the required percentage of the eligible employees have then made application.

#### 2. *Eligibility*

Present employees under age 64 whose annual rate of earnings is less than $1,500 and who have passed their 35th birthday are eligible to join the plan on the effective date provided they have completed one year of continuous service. Other such present and new employees may join the plan on the first day of a month nearest to their 35th birthday or on the first day of the month following completion of one year of continuous service, whichever is later. Employees whose annual rate of earnings is $1,500 or more, will be eligible to join the plan at any age on the first day of the month following the completion of one year of service.

To join the plan on the date of eligibility an employee should complete and turn in his application on or prior to that date.

This plan does not cover employees who

have passed their 64th birthday on the effective date, for whom the Company will make other arrangements.

3. *Retirement Income and Employees' Payments*

An employee's monthly Retirement Income in respect of his participation as a contributor after the effective date of the plan will be as shown below for each full year he participates in the plan.

As shown below employees will pay at rates varying from $2.00 to $2.40 a month for each $1.00 of monthly retirement income. The Company will pay the balance of the net cost of the plan. The employees' payments will be deducted regularly from their salary or wages and turned over to the Insurance Company.

Changes in Earnings Class due to change in rate of earnings, including changes due to annual rate of earnings reaching $1,500 for the first time, will be made on the January 1st next following such change. The annual rate of earnings for each employee will be determined by the Company for all purposes of the plan.

| *Annual Rate of Earnings as Determined by the Company* | *Earnings Class* | *Monthly Rate of Retirement Income for Each Completed Year as Contributor in Earnings Class* | *Employee's Monthly Contributions* |
|---|---|---|---|
| Less than $1,500.00 | 1 | $1.00 | $ 2.00 |
| $1,500 to 1,999.99 | 2 | 1.50 | 3.00 |
| 2,000 to 2,499.99 | 3 | 2.00 | 4.00 |
| 2,500 to 2,999.99 | 4 | 2.50 | 5.50 |
| 3,000 to 3,599.99 | 5 | 3.00 | 7.20 |
| 3,600 to 4,199.99 | 6 | 4.00 | 9.60 |
| 4,200 to 4,799.99 | 7 | 5.00 | 12.00 |
| 4,800 to 5,399.99 | 8 | 6.00 | 14.40 |
| etc. | | etc. | etc. |

4. *Additional Retirement Income*

To provide more adequate incomes for older employees having fewer years to participate in the plan, the Company plans to purchase over a period of years an additional Retirement Income for each employee now at least age 36 who joins the plan on the effective date and continues in service as a contributor until his Normal Retirement Date. This additional income, when purchased, will be at an annual rate equal to 1% (NOTE: or possibly 1½%) of employee's annual rate of earnings on the effective date of the plan, multiplied by the number of years of continuous service completed between his 35th birthday and the effective date of the plan. No payment will be made to the employee on account of any such additional Income if the employee terminates service with the Company prior to his Normal Retirement Date.

5. *Retirement Date*

An employee's Normal Retirement Date is the nearest first day of a month to the employee's 65th birthday.

At the option of the Company or by mutual agreement of the Company and the employee, an employee may retire before or after his Normal Retirement Date. In case of earlier retirement, the employee will receive a reduced scale of Retirement Income. In case of later retirement, contributions will cease at his Normal Retirement Date and no Retirement Income will be payable until actual retirement and then it will be at the same annual rate as if he had retired on his Normal Retirement Date.

6. *Termination of Service*

Contributions by the employee and the Company cease upon termination of the employee's service, and

(a) *If the employee has both completed five years as a contributor and passed his 45th birthday,* he will automatically retain the Retirement Income described in Paragraph 3 above which was purchased by both his own and the Company's payments for the years during which he was a participant. Such Retirement Income will commence on his Normal Retirement Date, if he is then living.

(b) *If the employee has not both completed five years as a contributor and passed his 45th birthday.*

(1) He may leave his own payments with the Insurance Company and receive, commencing on his Normal Retirement Date, if then living, only that part of the Retirement Income described in Paragraph 3 above which has been purchased by his own contributions; or, in lieu thereof,

(2) He may have all of his own payments returned to him. (The Insurance Company reserves the right to spread the repayment of such contributions to the employee over a period of twelve months.)

7. *In Event of Death*

In event of death before the Retirement Income is commenced, the employee's total payments will be returned to the beneficiary named by him.

In event of death after the Retirement Income is commenced, any excess in the amount of the employee's total payments over the amount of Retirement Income he has received will be paid to the beneficiary named by him.

8. *Contract and Certificate*

This brief announcement cannot contain the full details of the plan as set forth in the contract which will be issued to the Company by the Insurance Company.

The plan, and all descriptions and outlines of the plan, are governed in every respect by the contract. The provisions of the contract cannot be changed without the Company's consent during the five years following the effective date of the plan, and any change made cannot affect that part of the Retirement Income purchased up to the date of such change.

Each participating employee will receive a certificate issued by the Insurance Company outlining the benefits provided in the contract.

9. *In Event of Change or Discontinuance*

The Company hopes and expects to continue the plan indefinitely but must necessarily reserve the right to change or discontinue it at any time. However, any change or discontinuance will not affect adversely the terms governing the payment of the Retirement Income actually purchased by the employee's and the Company's payments made prior to the date of such change or discontinuance.

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The foregoing illustration provides for no interest on cash withdrawals by the employee. If an interest return is considered necessary Sections "6" and "7" might be somewhat as follows:

6. *Termination of Service*

Contributions by the employee and the Company cease upon termination of the employee's service, and

(a) *If the employee has not completed ten years' participation in the plan*

(1) He may leave his own payments with the Insurance Company and receive, commencing on his Normal Retirement Date, if then living, only that part of the Retirement Income described in Paragraph 3 above which has been purchased by his own contributions; or, in lieu thereof

(2) He may take a cash benefit equal to the following percentage of the total contributions which he has made:

At withdrawing during the:

| *Year of Participation* | *Percentage of Employee's Total Payments* |
|---|---|
| 1st | 100 |
| 2nd | 101 |
| 3rd | 102½ |
| 4th | 104 |
| 5th | 105½ |
| 6th | 107 |
| 7th | 108½ |
| 8th | 110 |
| 9th | 111½ |
| 10th | 113 |

(b) *If the employee has completed ten years of participation in the plan*

(1) He may retain the entire retirement income described in Paragraph 3 above which was purchased by both his own and the Company's payments for the years dur-

ing which he was a participant. Such Retirement Income will commence on his Normal Retirement Date, if he is then living, or in lieu thereof

(2) He may withdraw a cash benefit equal to 115% of all payments he had made under the Plan.

*7. In Event of Death*

In event of death before the Retirement Income is commenced, the cash benefits determined as in Section 6 will be returned to the beneficiary named by him.

In event of death after the Retirement Income is commenced, any excess in the amount of the employee's total payments over the amount of Retirement Income he has received will be paid to the beneficiary named by him.

## One Combustion Test on Ranges Dropped

THE A. G. A. Approval Requirements Committee on December 3 approved the action of the Subcommittee on Approval Requirements for Domestic Gas Ranges in discontinuing the combustion tests on gas ranges at the normal pressure adjustment on natural, manufactured, propane and butane-air gases. This change in the range standards is applicable immediately.

A study of the test records on thousands of domestic gas ranges tested during the past 12 years by the Association's Testing Laboratories indicates that ranges which comply with the combustion tests at 0.5 and 1.25 normal gas pressures, with the adjustments of gas and primary air made at normal pressure, almost universally comply with the combustion requirement at such normal pressure. The action taken, therefore, will serve to save time and expense in making the combustion tests without detracting from their effectiveness.

## Increase in Efficiency of Fan-Type Furnaces

THE thermal efficiency requirement for fan-type warm air furnaces was increased five per cent, by action of the Subcommittee on Approval Requirements for Central Heating Gas Appliances, at its November 19 meeting. This recommendation of the subcommittee was approved by the A. G. A. Approval Requirements Committee and became effective on January 1, 1938. The change in the thermal efficiency requirement also involves a change in the output rating, which is to be indicated on the manufacturer's name plate on approved furnaces of this type. Notice to this effect has been sent to all manufacturers of Approved Central Heating Gas Appliances.

A check is being made on all furnaces of this type which were approved prior to January 1. All manufacturers whose appliances meet the new efficiency requirement will be so notified at the same time. In the meantime, manufacturers of approved fan-type furnaces whose appliances do not comply with the new requirement will be so notified and given an opportunity to improve their appliances and have them retested before the new output ratings are published for all manufacturers. According to announcement by the Laboratories, it is expected that the new output ratings for all fan-type warm air furnaces will be listed either in the April 1 or July 1, 1938, Directory of Approved Gas Appliances and Listed Accessories.

## Chemical Material Index

THERE is available at Association headquarters an Index of Material of a Chemical Nature which should prove invaluable to anyone who deals with work of a chemical nature in the gas industry. This index covers all of the material published in the proceedings of the American Gas Institute, 1906-16; proceedings of the American Gas Association 1919-36; A. G. A. Chemical Committee, 1926; A. G. A. Production and Chemical Conferences, and Distribution Conferences; and A. G. A. Natural Gas Department Proceedings, 1928-36.

Copies may be secured at fifty cents each by writing to the American Gas Association, 420 Lexington Ave., New York, N. Y.

# Personnel Service

### SERVICES OFFERED

Understands selection also methods for improving employee performance and morale; ten years' experience in one of largest combination gas and electric companies, also three years in government **personnel work** covering three states; familiar with employee training needs and understands how to correct and meet public demand for high quality service. College background. **1160.**

**Executive Engineer.** Unusual educational background. At present employed. Wide experience and acquaintance in the natural and manufactured gas, electrical and water industries desires change. He had construction, operating, sales, legal, purchasing, accounting and research experience. Widely travelled. Will locate anywhere. Has had success rehabilitating properties producing operating and financial results. **1164.**

**Manager and Engineer**—Over 20 years operating experience on coke oven and water gas plants and with utility management. Experienced in plant and distribution design and construction; with both high and low temperature carbonization processes; gas and equipment sales and survey work and familiar with all domestic, commercial, industrial and house heating equipment. **1170.**

Aggressive **sales merchandiser** whose technical training, five years' experience, sales ability, knowledge of rate making and application and proven methods have increased sales in manufactured gas property by 100 per cent. **1172.**

Young man, good education, with eleven years' active **secretarial** and **stenographic** experience desires connection with reliable firm, preferably gas or electric. Experienced in both chemical and mechanical dictation. One year's experience in chemical laboratory of gas company. Anxious obtain position with future; single (29). **1173.**

**Gas Engineer**—graduate mechanical engineer, 20 years of broad experience in design, construction and operating with several large well managed gas properties. **1174.**

Gas **meter repairman**—nine years' experience on domestic and industrial tin and iron meters. Can rebuild any size gas meters. Have good recommendations. **1175.**

Young **natural gas engineer,** with eight years' experience, transmission lines, gas measurement, distribution, design of high and low pressure distribution systems, and maintenance. Outstanding record in heating, air conditioning and industrial installation design and supervision. Good personality, responsible, can handle any problem. Good health, married. **1176.**

### SERVICES OFFERED

Ten years' technical experience in large eastern gas company. Has served as general foreman of street maintenance work, general foreman in charge of appliance installation and at present is special **engineering assistant** in the production department. Desires position in engineering or sales engineering capacity. **1177.**

**Editor-writer,** knack for being interesting and easy-to-read as well as convincing and informative. Proven ability and adaptability. Broad general business experience. Knows publishing, all angles. Could write or edit—capably—house magazine or intra-organization publicity. Salary ideas, sensible. **1178.**

**Experimental engineer,** over 6 years' field and research laboratory experience in pipe coatings and corrosion, gums, oils, etc.; load dispatching, measurement, unaccounted-for high and low pressure distribution practice, designs, property damage, customer service. Familiar with water gas manufacture. Previous 5 years' experience as water works chemist. Graduate chemical engineer, licensed, (34). **1179.**

Ten years as head of the corporate, advertising and statistical department and three years treasurer and purchasing agent of a large group of gas companies. Eight years as assistant to vice-president in charge of operating department. College graduate, majored in accounting and business administration. American (49). **1180.**

### POSITIONS OPEN

Distributor's or **Manufacturers Agency Representatives** for gas automatic water heaters manufactured by nationally known company wanted for territories developed but presently open for new representation. New England with Boston as headquarters; New York State except Greater New York City and Buffalo; Southeast territory with Atlanta, Georgia, as headquarters. **0331.**

An experienced, practical **gas appliance serviceman,** one who is experienced with the installation and adjustment of ranges, water heaters and miscellaneous appliances used with natural gas. A knowledge of conversion burner and gas boiler installation is desirable but not essential. Applicant should be capable of conducting schools for servicemen and should be able to stand on his feet and clearly explain methods used. Location—Middle West. Position involves considerable traveling over territory covered. Write giving complete experience and references. Applications kept confidential if desired. **0332.**

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